A STUDY TO ASSESS THE EFFECTIVENESS OF LIFESTYLE MODIFICATION PACKAGE ON KNOWLEDGE AND ATTITUDE REGARDING WEIGHT REDUCTION AMONG WOMEN WITH PCOS AT JANET NURSING HOME, TRICHY.

BY

REG.NO : 301322252

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN NURSING.

OCTOBER – 2015

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OCTOBER 2015

DECLARATION

I hereby declare that the present dissertation entitled " **A study to assess the effectiveness of Lifestyle Modification Package on knowledge and attitude regarding weight reduction among women with PCOS at Janet Nursing Home, Trichy**" outcome of the original research work undertaken and carried out by me, under the guidance of research guide **Prof. .Mrs.VANITHA INNOCENT RANI, M.Sc(N),Ph.D.,** professor cum principal, and **Mrs.SHARAN SOPHIA, M.Sc(N),** vice principal Our Lady Of Health College of Nursing, Thanjavur.

I hereby declare that the material of this has not found in any way , the basis for the award of any degree / diploma in this university or any other university.

301322252

CERTIFICATE

CERTIFIED THAT THIS IS THE BONAFIDE WORK OF

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AT OUR LADY OF HEALTH COLLEGE OF NURSING,

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LIST OF ABBREVIATIONS

SHORT FORMS	ABBREVIATION
H_0	Null Hypothesis
H_1	Research Hypothesis
λ^2	Chi-square
S	Significant
NS	Not Significant
PCOS	Poly Cystic Ovarian Syndrome
BMI	Body Mass Index
OPD	Out Patient Department
%	Percentage
SD	Standard Deviation

ABSTRACT

A study to assess the effectiveness of Lifestyle Modification Package on knowledge and attitude regarding weight reduction among women with PCOS at Janet Nursing Home, Trichy. A quasi experimental one group pre test – post test design was used 40 women with PCOS were selected by using Non probability convenience sampling technique. The Self administered knowledge questionnaire and 5-point Likert scale were used to assess the knowledge and attitude of the samples before and after providing Lifestyle Modification package. Finally, the statistical analysis revealed that, the calculated paired‘t’ test value for knowledge (‘t’ = 22.07) and attitude (‘t’ = 19.74) had a significant difference between the pre and post test levels of knowledge and attitude of the women with PCOS at 0.05 level of significance. The correlation between the post test scores of knowledge and attitude regarding weight reduction was ‘r’ value 0.8. It indicates that there is a positive and highly significant correlation. In chi square there was a significant association in the pre test levels of knowledge with Education, occupation and Previous source of information and there was significant association with Age of the women, Education, Occupation, and Previous source of information towards pre test levels of attitude. The study finding showed that the Lifestyle Modification Package was effective for the women with PCOS.

CHAPTER I

INTRODUCTION

"The foundation of every state is the education of its youth"

- Diogenes Laertius

BACKGROUND OF THE STUDY

PCOS was first discovered in 1935 by Doctors stein and Leventhal, so for many years it was known is the Stein- Leventhal syndrome. PCOS also called hyperandrogenic anovulation (HA), or **steinleventhal syndrome**, is a set of symptoms due to a hormone imbalance in women. Poly Cystic Ovarian Syndrome (PCOS) is the most common endocrine disturbance affecting women, and is a heterogeneous collection of signs and symptoms with a mild and some of them had severe disturbances of reproductive, endocrine and metabolic function. The Key features includes the menstrual disturbances, hyperandrogenism and obesity.

The morphology of the PCOS is an ovary with 12 or more follicles measuring 2-9 mm in diameter and/or increased ovarian volume. Poly Cystic Ovaries are commonly detected by pelvic ultrasound, which estimated the prevalence of 20-33%.

In **2003 Rotterdam** indicated PCOS to be present if any 2 or 3 criteria are met

1. Oligo-ovulation and/or anovulation.
2. Excess androgen activity.
3. Polycystic ovaries (by gynaecological ultrasound).

Symptoms include irregular menstrual periods, heavy periods , excess body and facial hair , acne, pelvic pain, trouble in getting pregnancy, patches of thick, darker, velvety skin.

PCOS is most common among women with the age group of 18 to 44 years. It affects approximately 5% to 10% of this age group. It is one of the leading causes of poor fertility. Symptoms typically begin in the late teens or early 20s. Not all symptoms occur in all women with PCOS. Symptoms can vary from mild to severe.

PCOS is due to a combination of genetic and environmental factors. Risk factors include obesity, decreased physical exercise, and a family history. Cysts may be detectable by ultrasound other conditions that produce similar include adrenal hyperplasia, hypothyroidism, and hyperprolactinemia.

Treatment may involve Lifestyle changes such as diet and exercise. Efforts to improve fertility include weight loss, clomiphene or metformin. In vitro fertilization is used for fertility

The PCOS Nutrition stated that resistance training was important for PCOS women. According to **AMERICAN COLLEGE OF SPORTS MEDICINE** resistance training is a form of physical activity that is designed to improve the muscular fitness by exercising a muscle or muscle group against an external resistance.

PCOS HEALTH stated that the management of PCOS usually requires lifestyle changes including following a healthy eating plan and increasing physical activity which help with weight loss and improving insulin sensitivity.

Women with PCOS face many challenges in managing their disorder and desire to gain control, balance, and well being through a comprehensive treatment

plan. The health care providers in addressing quality of life issues and overall health outcomes.

The exchange ideas on PCOS, an international group of PCOS researchers has gathered every other year to summarize the state of the field and stimulate further research.

NEED FOR THE STUDY

"The past you cannot change, but today is yours. Live it to the fullest of your awakened awareness."

Now a day's women's are unaware about polycystic ovarian Syndrome (PCOS) which is more prevalent. A substantial proportion of the worldwide burden of Polycystic ovarian Syndrome (PCOS) could be prevented through the application of existing knowledge and by implementing programs for control and early detection and treatment is important to prevent long term sequel and to develop a positive attitude and follow healthy life style, as well as public health campaigns promoting physical activity and a healthier dietary intake.

PCOS is the most common hormone disorder in women, affecting 5% to 10 % of adolescent girls and adult women of child-bearing age.. PCOS usually begins at or soon after puberty and is a life-long condition. Obesity is present in 50% of individuals with PCOS. In addition, women with PCOS are at increased risk of developing diabetes, cardiovascular disease, obstructive sleep apnoea, and uterine cancer.

According to **American Nurses Today** PCOS affecting approximately 1 in 10 females in the united states, polycystic ovary syndrome(PCOS) is the most common endocrine abnormality in women of child bearing age.

The **ROTTERDAM EUROPEAN SOCIETY OF HUMAN REPRODUCTION/AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE** (ESHRE/ASRM)-Sponsored PCOS Consensus Workshop Group that convened in 2003 now requires the existence of two of the following three criteria to make the diagnosis of PCOS oligo-ovulation or anovulation, clinical or biochemical signs of hyperandrogenism, and polycystic ovaries.

The rates of PCOS in mothers and sisters of patients with PCOS were 24% and 32%, respectively. Increased insulin resistance has been noted in mothers and sisters of women with PCOS Hyperinsulinemia are noted in 50% to 70% of PCOS patients. It is defined as impaired action of insulin on glucose transport and antilipolysis in adipocytes in the presence of normal insulin binding

About 15% to 30% of women with PCOS claim to have regular periods despite documented anovulation. weight loss has been the major recommendation for women with PCOS. Research shows that even a 5% decrease in total body weight helps in reducing the insulin levels, increase fertility rates, reduce hirsutism and acne and lower testosterone levels. Because these patients are anovulatory, they present with infertility issues. They can also have increased incidence of pregnancy loss and pregnancy complications. Spontaneous abortion occurs in one third of all pregnancies in women with PCOS, which is double the rate of normal women. After pregnancy is established, perinatal mortality is increased at least 1.5 times.

Goodarzi et al, 2011 said that the insulin resistance is proposed as a key pathophysiological feature of PCOS contributing to both the metabolic and reproductive disturbances and 50-70% of women with PCOS have insulin resistance beyond that predicted by their body mass index (BMI)**.**

Polycystic ovary syndrome (PCOS) affects about 5% to 10% of reproductive age women in the United States and is considered the most common endocrine abnormality among them. In a prospective study of 400 adult girls of reproductive age, 4% to 4.7% of white girls and 3.4% of African American girls had polycystic ovary syndrome. A similar rate of 4% to 6% has been found in other populations. Hyperinsulinemia is noted in 50% to 70% of PCOS patients In Australia PCOD appears to be the common cause of oligo-ovulatory infertility affecting 20-35% infertile women.

THE MEDICAL JOURNAL OF AUSTRALIA reported that PCOS has recently been shown to affect a striking 12% - 21% Austrlian reproductive age women, being more common among those who are overweight or of indigenous background. It is estimate that 70% of Australin women with PCOS remain Undiagnosed.

IN INDIA, the prevalence of PCOS in adolescence is 9.13 %. India has witnessed about 30% rise in PCOS cases in the last couple of years. This draws attention to the issue of early diagnosis in adolescent girls. In Karnataka, incidence of PCOS among adolescent is estimated to be 11-26%. In October 2013, the **Endocrine society** released practice guidelines for the diagnosis and treatment of PCOS. Lifestyle Modification are considered first line treatment for women with PCOS.

A study was conducted on prevalence of polycystic ovarian disease (PCOD) in India among 136 adolescent girls between 15 and 17 years of age. The study highlights that 36% of adult girls are found to have PCOS due to irregular menses (59.9%), hirsuitism (56.3%), acne (17.8%), obesity (17.3%), polycystic ovaries on ultrasound (47.8%) and clinical hyperandrogenism (56.1%). The study concludes that screening for menstrual irregularity, obesity and signs of clinical

hyperandrogenism are essential for early diagnosis of PCOD in an effort to improve the reproductive health of adolescent girls.

A study was conducted on effects of lifestyle management on prevention of Polycystic ovarian disease (PCOD) in obese adolescent girls. A sample of 59 obese girls between age group 12-18 year were included in the study and intervention was a 1 year lifestyle management based on diet, exercise training and behavior therapy. The study result shows that 26 girls had reduced body mass index improved most CRF(cardio respiratory fitness) and decreased their IMT (intimal medial thickness) also testosterone concentrations decreased and SHBG(sex hormone binding globulin) concentration increased significantly in girls with weight loss. The prevalence of amenorrhea and oligomenorrhea decreased in the girls with weight loss. The study concludes that weight loss due to lifestyle management is effective to treat menses irregularities, normalize androgens and improve CRF and IMT in obese adolescent girls with PCOS

From the above studies the investigator found most of women have PCOS and have lack of knowledge regarding PCOS and its prevention Improving knowledge among women regarding prevention and early detection of Polycystic ovarian Syndrome (PCOS) can go a long way in taming the disease.. Women's are neglecting to taking care of themselves. Hence, the researcher is interested to Educate the women regarding polycystic ovarian syndrome (PCOS) and its prevention through the Lifestyle Modification Package.

STATEMENT OF THE PROBLEM

A study to assess the Effectiveness of Lifestyle Modification package on knowledge and attitude regarding weight reduction among women with PCOS at Janet Nursing Home, Trichy.

OBJECTIVES

- To assess the knowledge and attitude regarding weight reduction before and after providing Life Style Modification Package among women with PCOS.
- To evaluate the effectiveness of Lifestyle Modification Package regarding weight reduction among women with PCOS.
- To correlate the post test scores of knowledge and attitude regarding weight reduction among women with PCOS.
- To determine the association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS with their selected demographic variables.

HYPOTHESIS

All the Hypothesis were tested at the significance of 0.05 level

- **H1-** There will be a significant difference between the pre and post test levels of knowledge and attitude regarding weight reduction among women with PCOS.
- **H2**-There will be a significant correlation between the post test scores of knowledge and attitude regarding weight reduction among women with PCOS.
- **H3**-There will be a significant association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS with their selected demographic variables.

OPERATIONAL DEFINITIONS:

Effectiveness

In this study it refers to the desired improvement in knowledge and attitude regarding weight reduction measures among women with PCOS which will be measured by a self administered knowledge questionnaire & 5 point Likert scale.

Lifestyle Modification Package

In this study it refers to behaviour intervention that attempt to create change in multiple health behaviour of subjects.

Knowledge

In this study it refers to the information expressed by women regarding weight reduction among PCOS women.

Attitude

In this study it refers to the self belief or perception of women regarding weight reduction.

Weight Reduction

In this study it refers to a reduction of body mass. This may be the result of a change in lifestyle adopted by the women with PCOS.

Women with PCOS

In this study it refers to the women diagnosed as PCOS is the most common endocrine disorders among females; the immediate symptoms are an ovulation, excess androgenic hormones**,** irregular

menstrual cycles, excessive hair growth over the face, acne, obesity, & reduced fertility.

ASSUMPTION

- Women with PCOS may not have adequate awareness about weight reduction.
- Lifestyle modification package may improve the knowledge and attitude of PCOS women regarding weight reduction .

DELIMITATION

- The study was limited to the women who are diagnosed as PCOS in Janet Nursing Home.
- The study was limited to the women who are attending gynaeic OPD at Janet Nursing Home.
- Data collection period will be limited to 6 weeks.

PROJECTED OUTCOME

- This study helps to improve the knowledge and attitude regarding weight reduction among women with PCOS.
- The lifestyle modification package on knowledge and attitude regarding PCOS helps to modify their activities of daily living.

CHAPTER II

REVIEW OF LITERATURE

Review of Literature is the reading and organizing of previously written materials relevant to the specific problems to be investigated, frame work and methods appropriate to perform the study". A literature review is to consider the critical points of current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic

PART I

Theoretical framework.

SECTION A: Review of literature related to PCOS.

SECTION B: Review of literature related to Exercises.

PART II

Conceptual framework.

SECTION A : Review of literature related to PCOS

CHIZEN D.R , SERRAO et al., The journal of fertility and sterility (2014) stated that a Lifestyle changes are recommended to restore ovulation and fertility, decrease obesity and prevent risks for serious conditions such as diabetes, heart disease, and uterine cancer for PCOS women. Exercise combined with either a pulse-based or Therapeutic Lifestyle Changes diet mediates a decrease in body fat, the time between menstrual bleeds, and insulin resistance. Changes in menstrual bleeding patterns may be used as a marker for improved metabolic health. Early diet/exercise intervention is needed during reproductive years to educate women to initiate health preserving strategies and decrease risks for serious health problems.

JOSELYN ROJAS et al., International Journal of Reproductive Medicine (2014) stated that PCOS is a highly prevalent endocrine-metabolic disorder that implies various severe consequences to female health, including alarming rates of infertility. The feature several hormonal disturbances, including hyperandrogenemia, insulin resistance (IR), and hyperinsulinemia. In turn, androgens may lead back to IR by increasing levels of free fatty acids and modifying muscle tissue composition and functionality, perpetuating this IR-hyperinsulinemia-hyperandrogenemia cycle. Non obese women with PCOS had unique biochemical and hormonal profiles. Nevertheless, lean and obese patients have chronic inflammation mediating the long term cardiometabolic complications and comorbidities observed in women with PCOS, including dyslipidemia, metabolic syndrome, type 2 diabetes mellitus, and cardiovascular disease. Given these severe implications, it is important to thoroughly understand the pathophysiologic interconnections underlying PCOS, in order to provide quality of life to women with this syndrome.

LORY HAYON RD., The PCOS Nutrition Centre (2014) stated that benefits of resistance training for women with PCOS most importantly, gender must be taken into consideration in regards to muscle strength and size. Women tend to have 10-30% less hormones that stimulate muscle growth and men have more skeletal muscle to begin with. It helps to improve the efficiency of the heart and lower lipid levels such as cholesterol and triglycerides. This is important for women with PCOS because they have a higher risk of heart disease.

MC BREAIRTY L et al., The Journal of Federation of American Society For Experimental Biology (FASEB) (2014) reported that a Twenty-five women with PCOS aged 18-35y with a mean BMI of 31 were randomly assigned to groups receiving a pulse-based diet (n=14) or the National

Cholesterol Education Program (NCEP) therapeutic lifestyle changes (TLC) diet (n=11) for 16 wks while participating in an exercise program. Following the intervention, both groups lost body mass ($p<0.05$; Pulse -2.4 vs TLC -3.0 kg), percent fat mass (Pulse -1.0 vs TLC -1.6 %) and trunk fat mass (Pulse -1.0 vs TLC -1.7 kg). No changes were observed in lean body mass between groups. Both dietary interventions also resulted in more women exhibiting regular menstrual patterns ($p<0.001$) and a tendency towards a decreased antral follicle count in the right ovary ($p=0.06$); however, only the pulse diet reduced total cholesterol to HDL ratio (4.2 to 3.8 $p<0.005$). Thus, early diagnosis and dietary/exercise interventions are important in alleviating both the personal health and economic costs associated with PCOD.

ERIN K BARTHELMESS et al., Journal of Fontiers in Bioscience (2014) stated that PCOS is depicted by hyperandrogenism, polycystic ovaries, and anovulation. It increases the risk of insulin resistance (IR), type 2 diabetes, obesity, and cardiovascular disease. The etiology of the disease remains unclear, and the subjective phenotype makes a united diagnosis difficult among physicians. It seems to be a familial genetic syndrome caused by a combination of environmental and genetic factors. It can be linked with metabolic disorders in first-degree family members. PCOS is the cause of up to 30% of infertility in couples seeking treatment. Currently, there is no cure for PCOS. Despite the growing incidence of this syndrome, limited research has been done that encompasses the entirety of PCOS spectrum.

FRARY JM et al., Minerva Journal of Endocrinology (2014) stated that Weight loss improves ovulation, testosterone levels and insulin resistance in women with polycystic ovarian syndrome (PCOS), but the optimal diet composition is disputed. A diet low in carbohydrates (LCD) may be superior to a standard diet in terms of improving fertility, endocrine parameters, weight

loss and satiety in women with PCOD. A LCD has an additional effect to caloric restriction in terms of weight loss. LCD compared to a standard diet ,LCD had a 15% significant additional effect on weight loss compared to a standard diet.

AL NOZHA O et al., Journal of international society for pathophysiology (2013) stated that a prospective study was conducted to clarify the pathophysiological responses during an application of insulin sensitizer, metformin and weight reduction therapy at the Gynecology Center in Ohud hospital, in AL-Madinah AL-Munawarah, Kingdom of Saudi Arabia. 20 healthy women served as controls and 180 PCOS women divided into three groups participated in the study. Clinical symptoms, menstrual pattern, hirsutism, blood glucose, body mass index, waist-to-hip ratio, insulin, hormonal, and lipid profiles were assessed pre and post treatment. Insulin resistance was calculated. PCOS women had significantly higher values than the healthy women in most of the measurements. Metformin and weight reduction therapy resulted in a significant decrease in the fasting insulin, glucose/insulin ratio and HOMA-IR. Metformin and weight reduction therapy decreased also hyperandrogenism and insulin resistance.

GORDON W BATES et al., Molecular and Cellular Endocrinology (2013) revealed that any intervention that reduces excess weight has potential to improve the health and wellness of women with PCOS Lifestyle modifications that include weight loss and exercise should form the foundation for treating obese women with PCOS. Although definitive data are lacking, Lifestyle modifications has been shown to decrease adipose tissue and improve insulin sensitivity associated with PCOS. In the adult population the benefits of exercise in Lifestyle Modifications on glucose levels and other cardiovascular risk factors are well documented. The addition of exercise to dietary caloric

restriction also results in more rapid, though only modest incremental decreases in weight. A recent randomized trial of 130 morbidly obese adult patients found that the addition of exercise resulted in greater reductions in waist circumference and hepatic fat mass.

LEGRO RS., Journal of Clinical Endocrinology and Metabolism (2013) revealed that using the Rotterman criteria for diagnosing PCOS. Establishing a diagnosis of PCOS is problematic in adolescents and menopausal women hyperandrogenism is central to the presentation in adolescents, whereas there is no consistent phenotype in postmenopausal women.evaluation of women with PCOS should exclude alternate androgen excess disorders and risk factors for endometrial cancer, mood disorders, obstructive sleep apnea, diabetes, and cardiovascular disease. The role of weight loss in improving PCOS ststus, but lifestyle intervention is beneficial in overweight / obese women for other health benefits.

RAVN P et al., Minerva Journal of Endocrinologica (2013) stated that weight loss is most effectively achieved through a 12-1500 kcal/day diet, which results in a clinically relevant weight loss. Weight loss through life style changes, preferably a low calorie diet, should be the first line treatment in overweight/obese women with PCOS. Metformin can be considered as an additional treatment but has subtle additive effect. Weight loss is therefore considered the first line treatment in overweight women with PCOS. The aim of this study was to appoint evidence based and clinically applicable advises on weight loss in overweight women with PCOS.

THOMPSON RL et al., A Journal of Human Reproduction (2012) reported that there three type of intervention provided for the sample, diet only diet and aerobic exercise (DA; n = 16, ≈ 6000 kJ/day and five walking sessions/week) and diet and combined aerobic-resistance exercise (DC; n = 20,

≈ 6000 kJ/day, three walking and two strength sessions/week). All three treatments resulted in significant weight loss. sVCAM-1, sICAM-1 and PAI-1 levels decreased with weight loss ($P \leq 0.01$), with no differences between treatments ($P \geq 0.4$).

LIGIA GABRIELLI AND ESTELLA ML AQUINO., Journal of Reproductive Biology and Endocrinology (2012) stated that this was a cross-sectional, two-phase study conducted in a probability sample of women of 18–45 years of age screened for cervical cancer in the primary healthcare network of the city of Salvador, Brazil. In the first phase, interviews were conducted, weight, height, waist circumference, blood pressure and random blood sugar levels were measured, and the presence of acne and hirsutism was investigated. So that the prevalence rate o PCOD is increased now days.

MC FARLAND et al., American Journal of Maternal Child Nursing (2012) stated that between 4% and 8% of women worldwide are affected by polycystic ovary syndrome (PCOS) and have the hormonal imbalances that lead to the cascade of symptoms, including weight gain and obesity. One of the first suggested treatments for infertility associated with PCOS is weight reduction, which has been shown to increase the chance of spontaneous ovulation and menstruation.

MORAN LJ et al., The Cochrane Database Systemic Review Journal (2011) stated that Obesity worsens the presentation of PCOS and weight management (weight loss, maintenance or prevention of excess weight gain) is proposed as an initial treatment strategy, best achieved through lifestyle changes incorporating diet, exercise and behavioural interventions. The studies compared physical activity to minimal dietary and behavioural advice Lifestyle intervention improves body composition, hyperandrogenism (high male hormones and clinical effects) and insulin resistance in women with PCOS.

Lifestyle intervention provided benefits when compared to minimal treatment for secondary reproductive, anthropometric and reproductive outcomes.

ROPERT W SHAW. CBE,MBChB,MD,FRCS et al., Text Book of Gynaecology (2011) reported that PCOS is the most common endocrine disturbance affecting women, and is a heterogeneous collection of signs and symptoms that gathered together, form a spectrum of a disorder with a mild presentation in some women, and a severe disturbance of reproductive endocrine and metabolic function. Poly cystic ovaries are commonly detected by pelvic ultrasound, with estimated prevalence in the general population being in the order of 20 – 33%.

HOWKINS AND BOURNE, SHAWS., Text Book of Gynaecology (2011) explored that Polycystic ovarian disease is a problem in which a woman's hormones are out of balance. It can cause problems with your periods and make it difficult to get pregnant. PCOS also may cause unwanted changes in the way you look. If it isn't treated, over time it can lead to serious health problems, such as diabetes and heart disease. Most women with PCOS grow many small cysts on their ovaries. That is why it is called polycystic ovary syndrome. The cysts are not harmful but lead to hormone imbalances

GEORGINA L. JONES et al., Journal of Obstetric, Gynaecologic, & Neonatal Nursing(2011) stated that PCOS has a negative impact on the health related quality of life of adolescent girls with the condition. Emotional and social functioning appeared to be most affected rather than areas of physical functioning. Future research is needed to identify ways to improve communication between adolescents with PCOS and their Health Care Professionals, particularly around the diagnosis and potential for infertility. Finally, Health Care Professionals need to be more aware of the emotional

impact of PCOS upon adolescents' health related quality of life and of the potential for poor sexual health through risk-taking behaviours that may occur due to the potential loss of fertility.

RENATO PASQUALI et al., The Journal of Clinical Endocrinology and Metabolism (2011) explored that PCOS status is expected to have long-term consequences in women, specifically the development of type 2 diabetes, cardiovascular diseases and hormone dependent cancers. Identifying susceptible individuals through genomic and proteomic approaches would help to individualize therapy and prevention. To summarize promising areas of investigation into polycystic ovary syndrome (PCOS) and to stimulate further research in this area.

THERESA R. WEISS et al., Journal of Obstetric, Gynaecologic, & Neonatal Nursing (2011) stated that As these young women gathered information relevant to their needs, sought and received social support, and maintained their daily routines to improve their health and appearance, they came to terms with this chronic condition. Based on participants' relayed experiences, it became evident that a need exists for health care practitioners to include psychosocial support in a comprehensive holistic plan for the treatment of PCOS in adolescents and young women in their early twenties.

CHERYLE L HARRISON et al., The Oxford Journal (2010) stated that Lifestyle modification, including increased physical activity, is the first-line approach in managing PCOS. Eight manuscripts were identified (five randomized controlled trials and three cohort studies). All studies involved moderate intensity physical activity and most were of either 12 or 24 weeks duration with frequency and duration of exercise sessions ranging between studies. The most consistent improvements included improved ovulation,

reduced IR (9–30%) and weight loss (4.5–10%). Exercise-specific interventions in PCOS are limited.

ANDREW., The Journal Of Metabolic Syndrome And Related Disorder(2010) explored that The syndrome, which modulates both hormonal and metabolic processes, is the most common endocrinopathy in reproductive-age women and increases a woman's risk of infertility, endometrial pathology, and cardio metabolic disease. As it is currently defined, PCOS most likely encompasses several distinct diseases with similar clinical phenotypes but different underlying pathophysiological processes. However, hyperandrogenism remains the syndrome's clinical hallmark. The clinical manifestations of PCOS often emerge during childhood or in the peripubertal years, suggesting that the syndrome is influenced by fetal programming and/or early postnatal events. However, given that the full clinical spectrum of PCOS does not typically appear until puberty, a "two-hit" hypothesis has been proposed: (1) a girl develops hyperandrogenism via one or more of many different potential mechanisms; (2) the preexisting hyperandrogenism subsequently disturbs the hypothalamic–pituitary–ovarian axis, resulting in ovulatory dysfunction and sustained hyperandrogenism.

AFSANEH KHADEMI et al., Asian Journal of Sports Medicine (2010) stated that the PCOS pharmacological intervention or preferably lifestyle modification. The most preferred and effective method of treatment of PCOS is lifestyle modification. Weight loss is an important treatment strategy.Weight loss improves practically every parameter of PCOS. In obese, anovulatory PCOS women, weight loss restores ovulation and pregnancy rates, decreases insulin levels, diminishes acanthosis nigricans, lowers testosterone levels while raising sex hormone binding globulin (SHBG) levels, and improves psychological considerations. Approximately 50-60% of women with the

syndrome are overweight or obese compared to 30% of women in the general population.

POPOVA P et al., A Journal of Pharmacology and Therapeutics (2010) reported that Thirty-three women completed the trial. Groups 1 (n = 14) and 2 (n = 10) showed significant weight loss (mean (kg) 10.3; P = 0.001 and 9.1; P = 0.005 respectively) and reduction in homeostatic model assessment (HOMA) without significant difference between the two groups. Group 3 (n = 9) had no significant weight and HOMA change. Seven subjects (50%) of group 1, 6 subjects (60%) of group 2 and nobody of group 3 responded to the intervention with improvements in menstrual cycle. The proportion of responders in groups 1 and 2 did not differ significantly (P = 0.77). Both groups differed from group 3 (P = 0.035). Logistic regression analysis was used to analyze the independent variables (metformin, percentage of weight loss, initial BMI, age) in order to predict the improvement of menses.

LASHEN., The Oxford Journal (2010) reported that The population difference is presented as the Weighted Mean Difference (95% CI). **PCOS** subjects had a significantly lower serum concentrations of IGFBP-1 compared with controls [*P*< 0.00001; −36.6 (−52.0, −21.2) μg/l]. Overweight **PCOS** subjects also had lower IGFBP-1 (**in**sul**in**-like growth factor b**in**d**in**g prote**in**-1) levels compared with normal weight **PCOS** subjects [*P* < 0.006; −30.6 (−52.3, −8.8) μg/l]. No significant difference was found between overweight **PCOS** patients and overweight controls [*P* = 0.23; −5.1 (−13.5, 3.2) μg/l] or between normal weight **PCOS** patients and normal weight controls [*P* = 0.50; −3.8 (−14.9, 7.3) μg/l]. Overweight controls had significantly lower IGFBP-1 concentrations than normal weight controls [*P*= 0.03; −18.0 (−34.4, − 1.5) μg/l].

DULEBA .AJ, AHMED IM., Indian Journal of Endocrinology and Metabolism (2010) revealed that observational study to evaluate urinary albumin excretion (UAE) in normotensive and non diabetic women with polycystic ovary syndrome in relation to their clinical, endocrine, and metabolic motiles. They concluded urinary albumin exenetion in women with pcos correlates well with other cordiovcescular events is continuous, evaluation of UAE in the presence of information and may aid in selecting appropriate patients for move aggressive treatment of likely aggravation factors, such as hyperonsulinemia or borderline hypertension.

BREWERM et al., Journal of Paediatrics, Neonatology, Adolescent Medicine (2010) stated that Polycystic Ovary syndrome (PCOS) is a complex disorder, involving primarily ovarian hyperandrogenism in females and linked with insulin resistance in the majority of cases. Clinical features are widely variable and include a combination of menstrual irregularities, acne, hirsutism, and alopecia. Although it typically presents around puberty, several risk factors during childhood may help raise a high index of suspicion for the development of PCOS in adolescents. The pathophysiology of PCOS still remains unknown and likely includes a combination of genetic factors, insulin resistance and environmental factors. A thorough diagnostic work up is required in suspected cases and several management modalities have been suggested. Since various long term complications and co morbidities are associated with PCOS early diagnosis and therapeutic intervention is warranted in these cases.

JUE ZHOU AND FAN QU, African Journal Of Traditional Complementary And Alternative Medicines (2009) stated that PCOS, with a prevalence of 5%–10%, is the most common endocrinopathy in women of

reproductive age, and is characterized by chronic anovulation and hyperandrogenism. To evaluate whether electro-acupuncture could affect oligo-/anovulation and related endocrine and neuroendocrine parameters in women with PCOS, twenty-four women with PCOS and oligo-/amenorrhoea were included in a non-randomized, longitudinal, prospective study (Stener-Victorin et al., 2000). In the study, the period was defined as the period extending from 3 months before the first electro-acupuncture treatment to 3 months after the last electro-acupuncture treatment (10–14 treatments altogether), a total of 8–9 months. Nine women (38%) experienced a good effect, showing increased rates of regular ovulations. These women also demonstrated significantly lower levels of body-mass index (BMI), serum testosterone concentration, serum testosterone/sex hormone hiding globulin (SHBG) ratio and serum basal insulin concentration and significantly higher levels of serum SHBG than those who did not respond to electroacupuncture. It was concluded that repeated electro-acupuncture treatments induced regular ovulations in PCOS with oligo-/amenotthoea (Stener-Victorin et al., 2000)

LAURA A et al., The Journal of Nurse Practitioners (2008) stated that PCOS is an endocrine metabolic disorder seen in women that continues to perplex health care providers. This confusion exists, in parts, because the disorder has a wide spectrum of phenotypic expression, which lends itself to variable clinical presentation.

SECTION B: Review of literature related to Exercise

JEFFREY D COVINGTON et al., European Journal of Endocrinology (2015) stated that we conducted a cross-sectional study in 8 women with PCOS and 8 women matched for BMI and age with normal cycles. Women with PCOS also completed a 16-week prospective aerobic exercise-training study. Abdominal subcutaneous adipose tissue biopsies were collected, and primary adipose-derived stromal /stem cell cultures were established from women with PCOS before 16 weeks of aerobic exercise training (n=5) and controls (n=5). Polycystic Ovary Syndrome (PCOS) is associated with reduced adipose tissue lipolysis that can be rescued by aerobic exercise. We aimed to identify differences in gene expression of perilipins and associated targets in adipose tissue in women with PCOS before and after exercise.

KRISHNAN S, TOKARN TN et al., American Journal of Health Behavior (2015) stated that To evaluate the feasibility and health improvements from a Zumba intervention in overweight/obese women. Twenty-eight (14 type 2 diabetic and 14 non-diabetic) over-weight/obese women (BMI: 37.3±1.5 kg/m(2)) 50.8±1.8 y of age, completed a 16-week intervention attending Zumba dance classes 3 days/week, 60 minutes/class. We measured aerobic fitness, body weight, body fat %, and motivation to exercise before and after the study. Intrinsic motivation to exercise ($p < .05$) and aerobic fitness (1.01 ± 0.40 mL/kg/min, $p < .05$) improved, and the participants lost body weight (-1.05 ± 0.55kg, $p < .05$) and body fat% (-1.2 ± 0.6%, $p < .01$). The Zumba intervention improved health and physical fitness in women.

SVEIN BARENE et al., Scandinavian Journal of Medicine and Science in Sports (2014) stated that Effects of the Workplace Health Promotion Activities Soccer and Zumba on Muscle Pain, Work Ability and Perceived Physical Exertion among Female Hospital Employees. After 12 weeks, both the soccer (−1.9, 95% CI, −3.0, −0.8, P=0.001) and the Zumba group (−1.3, 95% CI, −2.3, −0.3, P=0.01) reduced the pain intensity (on a scale from 0 to 10) in the neck-shoulder region (eta squared=0.109), whereas only the soccer group (−1.9, 95% CI, −3.2, −0.7, P=0.002, eta squared=0.092) showed a reduction after 40 weeks referencing the control group. After 40 weeks, both the soccer (-16.4 days, 95% CI, −29.6, −3.2, P<0.02) and the Zumba group (-16.6 days, 95% CI, −28.9, −4.2, P<0.01) reduced the pain duration during the past 3 months in the neck-shoulder region (eta squared=0.077). No significant effects on intensity or duration of pain in the lower back, Rating Of Perceived Exertion (RPE) during work or work ability were found.

NNAMDI ORAKPO, JAMES H SWAN., Journal of Gerontology and Geriatric Research (2013) stated that Increasing weight loss success was achieved through the application of the combination of the following factors: Zumba; spousal, physician, and family support; self-motivation; self-empowerment; and optimism. After being diagnosed with PCOS, the patient was prescribed the following regimen: 1) diet, 2) family support 3) OCP, Ca2+, Metformin, Vitamins, fat burners, and colon cleansers 4) moderate- vigorous Physical Activity-Zumba. The study concluded that weight loss success was achieved through the following: 1) moderate vigorous physical activity: High-Impact Zumba, spousal, physician, and family support; self-motivation; self empowerment; and optimism.

MARY LUETTGEN et al., Journal of Sports Science and Medicine (2012) stated that Currently, one of the most popular group fitness classes in clubs is Zumba. Zumba is a Latin-inspired dance workout first developed in Columbia in the mid- '90s by celebrity fitness trainer **Alberto "Beto" Perez**. Zumba was actually developed by "accident," when Beto forgot to bring his traditional aerobics music to class one day. The only music he had was a few Latin music tapes in his car. In his class, he let the music motivate him, just as if he were in a club, and began dancing to Salsa, Rumba, and Merengue. His participants loved it and Zumba was born. One of the reasons that Zumba is so popular is that its creator claims that "there is no right or wrong way to do it;" participants are encouraged to move to the beat of the music and the choreography is less formal than in many other group exercise classes. It is more of a dance party and the popular catchphrase: "Ditch the workout - join the party!" has become associated with Zumba. Zumba is currently performed by over 12 million people, at 110,000 sites, in 125 countries around the world (Zumba Fitness, 2012). Recently, Zumba was ranked 9^{th} in terms of worldwide fitness trends for the year 2012**.**

PART II: CONCEPTUAL FRAMEWORK

HEALTH BELIEF MODEL

The health belief model is a health protection model that provides a framework to explain why some people take specific actions to avoid or treat illness, where as others fail to protect themselves (Stanhope & Lancaster, 2004; Pender et al 2006). The model has been used to predict and explain health behaviour on the basis of value expectancy theory and kurt Lewin's cognitive theory.

Lewin is the cognitive theorist who conceptualized that certain aspect of a person's life space have negative, positive or neutral values. He believed that disease is a negative and as a result, exerts a force to move the persons towards health behaviour. He also believed that behaviour is a function of the subjective value of an outcome and of the subjective expectations that a particular action will achieve that outcome (Rosenstock 1974).

The health belief model states that the probability that a person will take appropriate health care actions depends on the person's value of health, perceptions about disease, and perceived threats of disease. In addiction action is motivated by perception about the medical team & therapy plans, past experience, contact with risk factors, level of participation in regular health care, life aspirations and factors in the environment. The four components are

- Perceived susceptibility,
- Perceived severity,
- Perceived benefits and
- Perceived barriers.

Perceived susceptibility

Individual's perception of susceptibility to an illness, perceived seriousness of contracting an illness or leaving it untreated. In Poly Cystic Ovarian Syndrome is harm to produce many signs and symptoms to the women.

Perceived severity

It refers to the person's subjective perceptions of the illness regarding risk factors contracting health condition like diabetes mellitus, cardiac diseases.

Perceived benefits

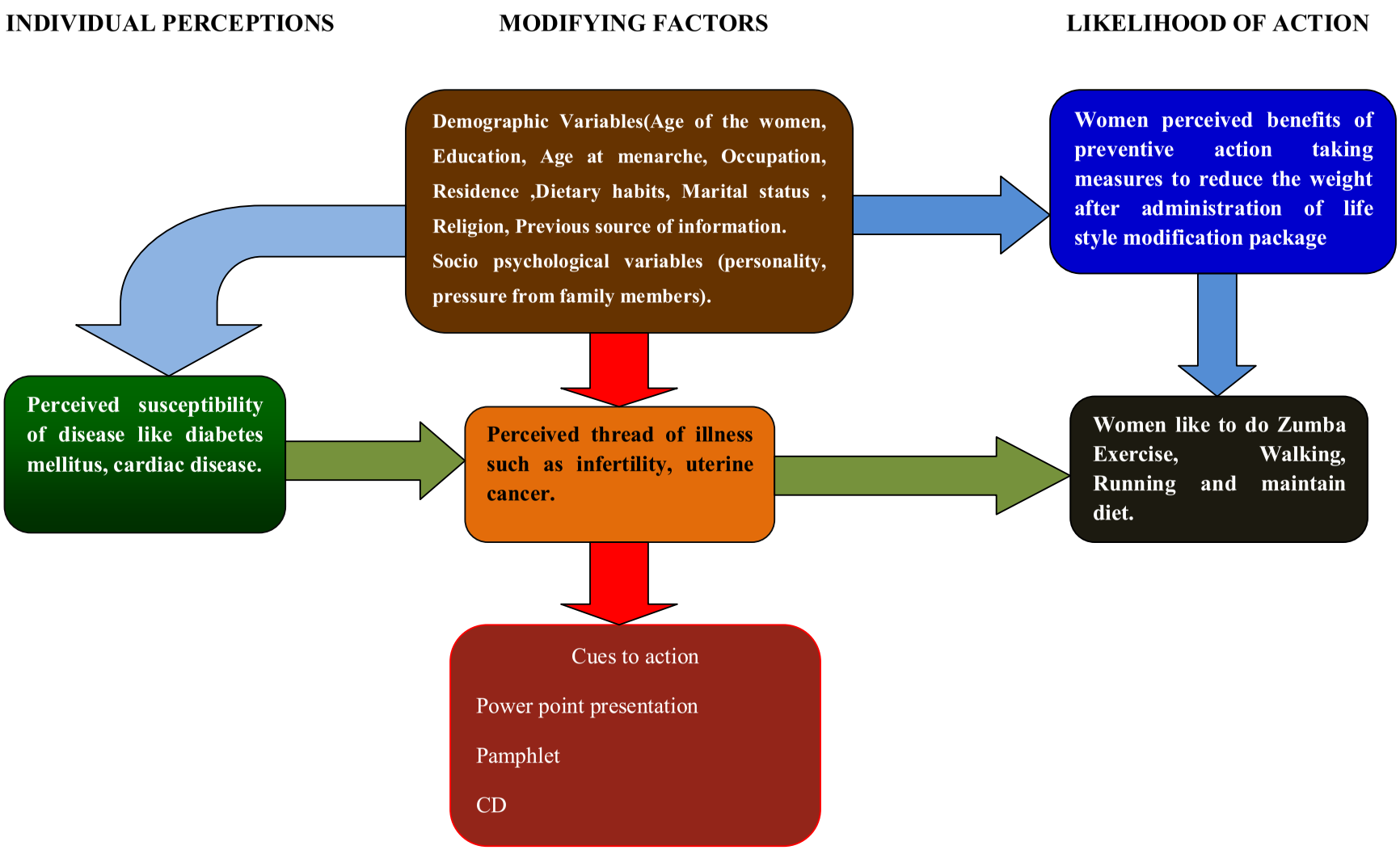
This perception is influenced and modified by demographic and socio psychological variables, perceived threats of the illness and cues to action (power point presentation, pamphlets, CD).

Perceived barriers

The third components of the likelihood that a person will take a preventive action results from the persons perception of the benefits of action and barriers to taking action. The barriers are mass media, health professionals and previous source of information.

The health belief model helps the women to understand the factors, influencing perceptions, beliefs & behaviour in order to plan care which help the women to reduce weight and like to do exercises. It will help in maintaining or restoring health and preventing illness.

CONCEPTUAL FRAMEWORK BASED ON HEALTH BELIEF MODEL



CHAPTER III

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. In this chapter the investigator discussed about the Research approach, Research design, Variables, Settings, Population, Sample, Sample size, Sampling technique, Criteria for data collection, Description of the tool, Plan for data analysis and protection of human rights.

RESEARCH APPROACH

Evaluative research approach was used in this study.

RESEARCH DESIGN

Quasi - experimental one group pre test-post test research design was used in this study.

O1	X	O2

O1 – pre test

X – Lifestyle modification package

O2 – Post test.

VARIABLES:

Independent Variable: Lifestyle modification package .

Dependent Variables: Knowledge and attitude regarding weight reduction.

Demographic Variables: It includes Age of the women, Education, Age at menarche, Occupation, Residence, Dietary habits, Marital status, Religion and Previous source of information.

SETTING

The study was conducted among the PCOS women at Janet Nursing Home, Trichy. It was nearly 45kms away from Thanjavur. Janet Nursing Home is the 100 bedded maternity hospital nearly 30 PCOS women were attended gynaeic OPD per day among those, who was fullfill the inclusion criteria were selected as samples for data collection.

POPULATION

The population comprised of women with PCOS between the age group of 18-40 years in Janet Nursing Home, Trichy.

SAMPLE

The sample comprised of women who are attending gynaeic OPD at Janet Nursing Home, Trichy.

SAMPLE SIZE

The sample size comprised of 40 women with PCOS those who were attending gynaeic OPD at Janet Nursing Home.

SAMPLING TECHNIQUE

Non probability convenience sampling technique was chosen for this study.

CRITERIA FOR SAMPLE SELECTION:

INCLUSION CRITERIA

- Women with PCOS between the age group of 18-40 years.
- Women who are having increased BMI above 25
- PCOS women who are attending gynaeic OPD in Janet Nursing Home.

EXCLUSION CRITERIA

- Women who are having other uterine complications such as dysfunctional uterine bleeding and pre menstrual syndrome etc.
- Women who are not willing to participate in the study.

REPORT OF PILOT STUDY

Pilot study was conducted to test the reliability, practicability, validity, and feasibility of the tool. Pilot study was conducted for a period of 2 weeks. The investigator obtained a written permission from the hospital authorities of Our Lady of Health Hospital, Thanjavur. The investigator obtained the oral permission from the participants prior to the study. Pilot study was conducted for 4 women with PCOS. samples were selected by using the Non probability convenience sampling technique. The pre test was conducted by using semi structured knowledge questionnaire and 5 point Likert scale to assess the knowledge and attitude respectively. The next day Lifestyle Modification Package was given in the form of power point presentation, pamphlets and CD copy and the post test was conducted after 7 days by using the same tools. The result of the pilot study was analyzed by the descriptive and inferential statistics it showed the feasibility to do the study. so the main study was proceeded.

RELIABILITY AND VALIDITY OF THE TOOL

The reliability and validity of the tool was established with Medical and Nursing experts. The tool was modified according to the suggestions and recommendations of experts and the tool was finalized. The reliability of the tool was established by test-retest method (Karl Pearson co- efficient Formula).

METHOD OF DATA COLLECTION

Written formal permission was obtained from the head of the hospital authorities. The investigator obtained the oral permission from the participants prior to the study then the investigator conducted the pre test on first day by using semi structured knowledge questionnaire and 5 point Likert scale to assess the

knowledge and attitude respectively. After the pre test, second day Lifestyle Modification Package was given. After 7 days the investigator conducted the post test to determine the knowledge and attitude of the subjects with the help of the same questionnaire.

SCORING AND INTERPRETATION PROCEDURE

(A) DISCRIPTION OF THE TOOL

The Tool Comprised of III Parts:

Part I: Demographic variables

Part II: Semi structured knowledge questionnaire was used to assess the knowledge

Part III: 5 point Likert scale was used to assess the attitude.

(A) SCORING OF THE TOOL

PART- II

It consisted of 21 items related to knowledge regarding weight reduction on Poly Cystic Ovarian Syndrome. Each correct answer carries "1" mark and "0" for wrong answer.

$$\frac{\text{Obtained Score}}{\text{Total Score}} \times 100$$

TABLE 3.1 Represents the percentage for the levels of knowledge score

LEVELS OF KNOWLEDGE	SCORE	PERCENTGE
Inadequate knowledge	0-7	0-34%
Moderately adequate knowledge	8-14	35-67%
Adequate knowledge	15-21	68-100%

PART III

It consisted of 12 items related to attitude regarding weight reduction on Poly Cystic Ovarian Syndrome. Each item carries the maximum score "5" and the least score"0".

$$\frac{\text{Obtained Score}}{\text{Total Score}} \times 100$$

TABLE 3.2 Represents the percentage for the levels of attitude score

LEVELS OF ATTITUDE	SCORE	PERCENTAGE
Inadequate attitude	0-20	0-34%
Moderately adequate attitude	21-40	35-67%
Adequate attitude	41-60	68-100%

PLAN FOR DATA ANALYSIS

Collected data was tabulated and analyzed by using descriptive and inferential statistical methods.

TABLE 3.3 represents the plan for data analysis

S. NO	DATA ANALYSIS	METHODS	REMARKS
1.	Descriptive statistics	Percentage, Frequency distribution, Mean, and Standard deviation	To describe the demographic variables of PCOS women knowledge and attitude.
		correlation	To determine the post test scores of knowledge and attitude regarding weight reduction among PCOS women
2.	Inferential statistics	Paired "t" test	To assess the effectiveness of Lifestyle Modification Package regarding weight reduction among women with PCOS.
		Chi-square test	To Analyse the association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS with their demographic variables.

PROTECTION OF HUMAN SUBJECTS

Formal permission was obtained from the hospital authorities. Research proposal was approved by the dissertation committee of Our Lady of Health College Of Nursing, prior to pilot study. After the clear explanation about the study, oral consent was obtained from each participant before started the data collection. Assurance was provided to the subject that the anonymity, confidentiality and subject privacy would be guarded.

CHAPTER-IV

DATA ANALYSIS

This chapter deals with the description of sample characteristics , analysis and interpretation of the data collected from PCOS women regarding weight reduction.

This chapter represented the organization of collected data and its interpretation by using descriptive and inferential statistical methods. The data was coded and analyzed as per the objectives of the study.

ORGANIZATION OF DATA

The data has been organized and tabulated as follows.

SECTION : 1

Assessment of demographic variables of the women with PCOS regarding weight reduction .

SECTION : 2

Assessment of pre test and post test levels of knowledge regarding weight reduction among women with PCOS.

SECTION : 3

Assessment of pre test and post test levels of attitude regarding weight reduction among women with PCOS.

SECTION : 4

Compare the significant difference between the pre and post test levels of knowledge and attitude among women with PCOS regarding weight reduction.

SECTION : 5

Assessment of the correlation between the post test scores of knowledge and attitude regarding weight reduction among women with PCOS.

SECTION : 6

Assessment of the association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS and their selected demographic variables such as Age of the women, Education, Age at menarche, Occupation, Residence, Dietary habits, Marital status, Religion, Previous source of information.

PRESENTATION OF DATA

SECTION : I

Assessment of demographic variables of the women with PCOS regarding weight reduction.

TABLE 4.1 :

Frequency and percentage distribution of demographic variables of the women with PCOS regarding weight reduction**.**

N = 40

S.NO	DEMOGRAPHIC VARIABLES	Frequency	%
1.	Age in years		
	a) 17- 24 years	22	55%
	b) 25-32 years	14	35%
	c) 33- 40 years	4	10%
2.	Educational status		
	a) Illiterate	-	-
	b) Primary	14	35%
	c) Secondary	15	37.5%
	d) Higher secondary	2	5%
	e) Diploma	3	7.5%
	f) Graduate	6	15%
3.	Age at menarche		
	a) >15 years	28	70%
	b) <15 years	12	30%
4.	Occupation		
	a) Employed	19	47.5%
	b) Un employed	21	52.5%

5.	Area of Residence		
	a) Urban	15	37.5%
	b) Rural	20	50%
	c) Semi urban	5	12.5%
6.	Dietary habits		
	a) Vegetarian	2	5%
	b) Non vegetarian	38	95%
7.	Marital status of the women		
	a) Married	30	75%
	b) Unmarried	10	25%
8.	Religion		
	a) Hindu	20	50%
	b) Muslim	11	27.5%
	c) Christian	9	22.5%
	d) Others	-	-
9.	Previous source of information		
	a) Health professionals	4	10%
	b) Mass media	-	-
	c) Friends & Relatives	8	20%
	d) None	28	70%

TABLE 4.1 above represents the frequency and percentage distribution of demographic variables of women with PCOS regarding weight reduction.

This table revealed that regarding the age maximum 22 (55%) women were in-between the age group of 17-24 years, 14 (35%) were in-between 25-32 years, 4(10%) were in-between 33-40 years of age.

Regarding the education qualification 14(35%) were studied primary education, 15(37.5%) were studied secondary education, 2(5%) were studied higher secondary education, 3(7.5%) were studied diploma, 6(15%) were graduate and none of them were illiterate.

Regarding the age at menarche 28(70%) women attained menarche at the age of below 15 years, 12(30%) women attained menarche at the age of above 15 years.

Regarding the occupation 19(47.5%) women were employed, 21(52.5) women were un employed.

Regarding area of resistance 15(37.5%) women belongs to urban area, 20(50%) women belongs to rural area, 5(12.5%) women belongs to semi-urban area.

Regarding their dietary habits 2(5%) women taking vegetarian diet, 38(95%) women taking non vegetarian diet.

Regarding the marital status maximum 30(75%) women were married, 10(25%) women were unmarried.

Regarding the religion 20(50%) women were Hindu, 11(27.5%) women were Muslim, 9(22.5%) women were Christian and none of them are other religion.

Regarding the previous source of information 4(10%) women were gained information from health personnel, 8(20%) women were gained information from friends and relatives, 28(70%) women are not had previous source of information and none of them were gained information from mass media

FIGURE 4.1 : Represents percentage distribution of women with PCOS based on age

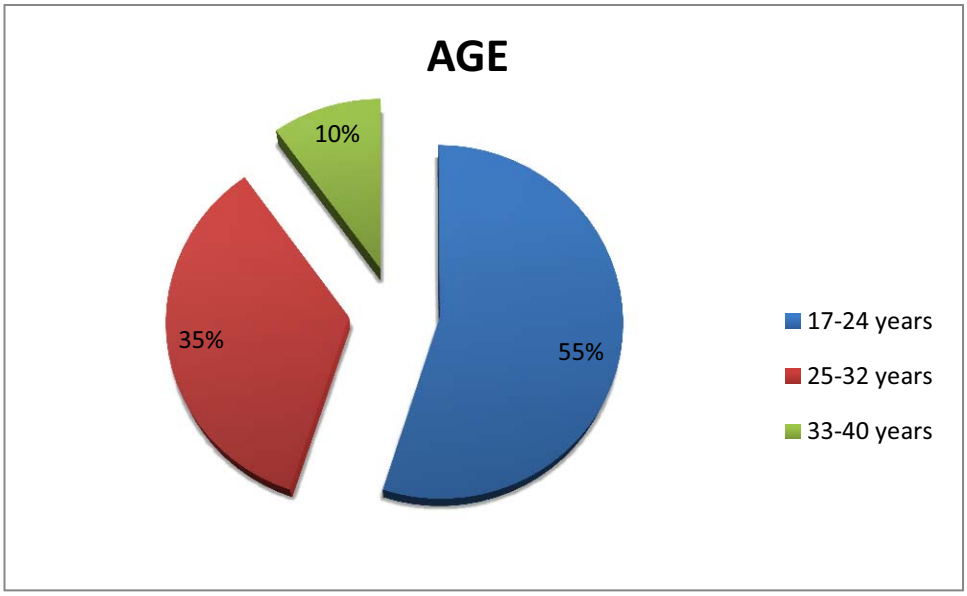


FIGURE 4.2: Represents percentage distribution of women with PCOS based on education

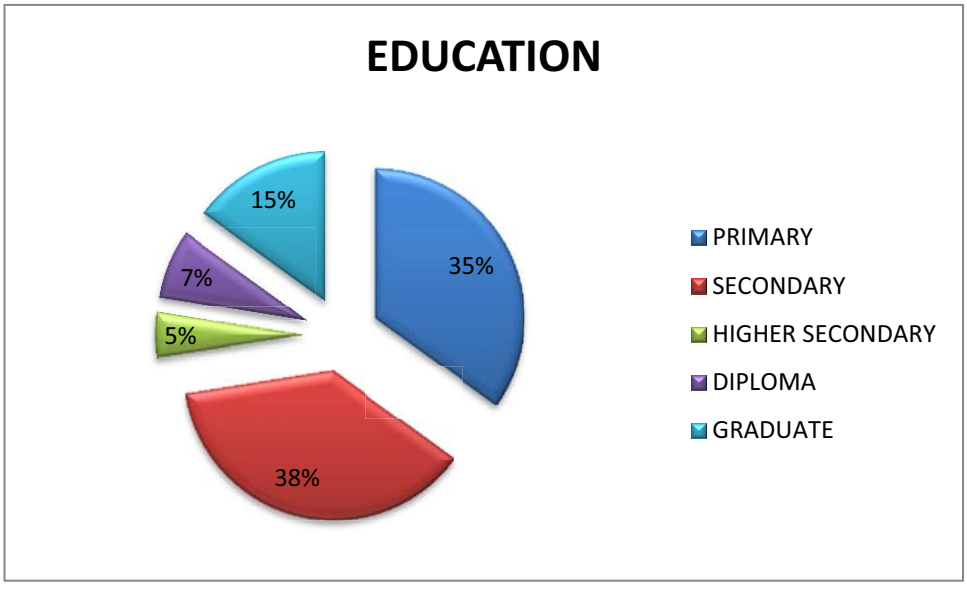


FIGURE 4.3 : Represents percentage distribution of women with PCOS based on age at menarche

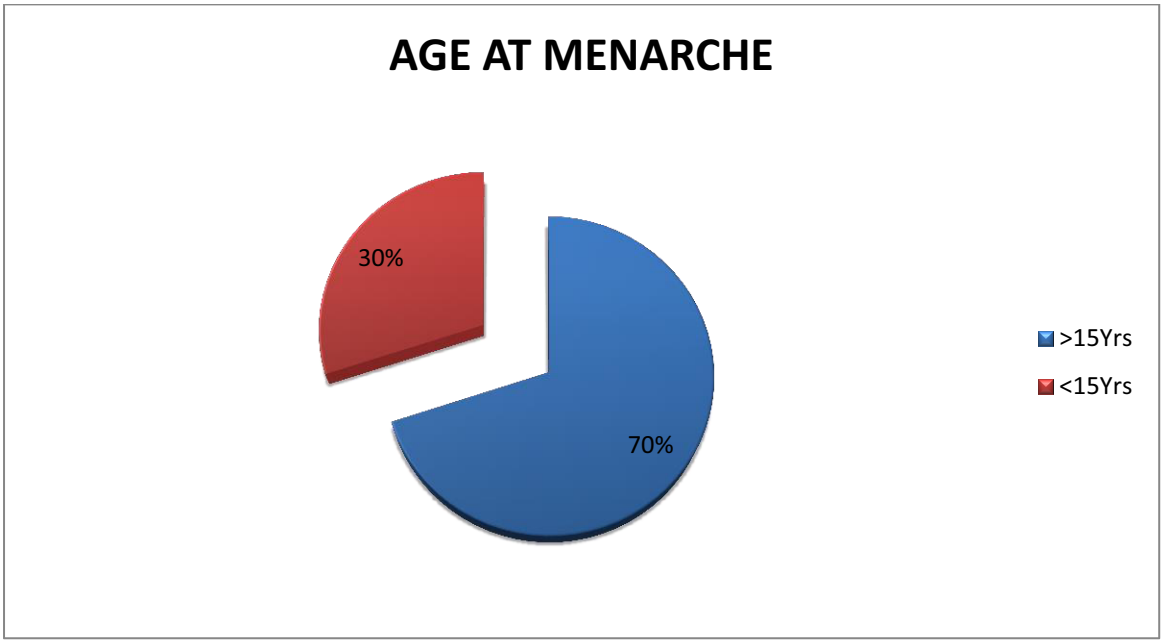


FIGURE 4.4 : Represents percentage distribution of women with PCOS based on occupation

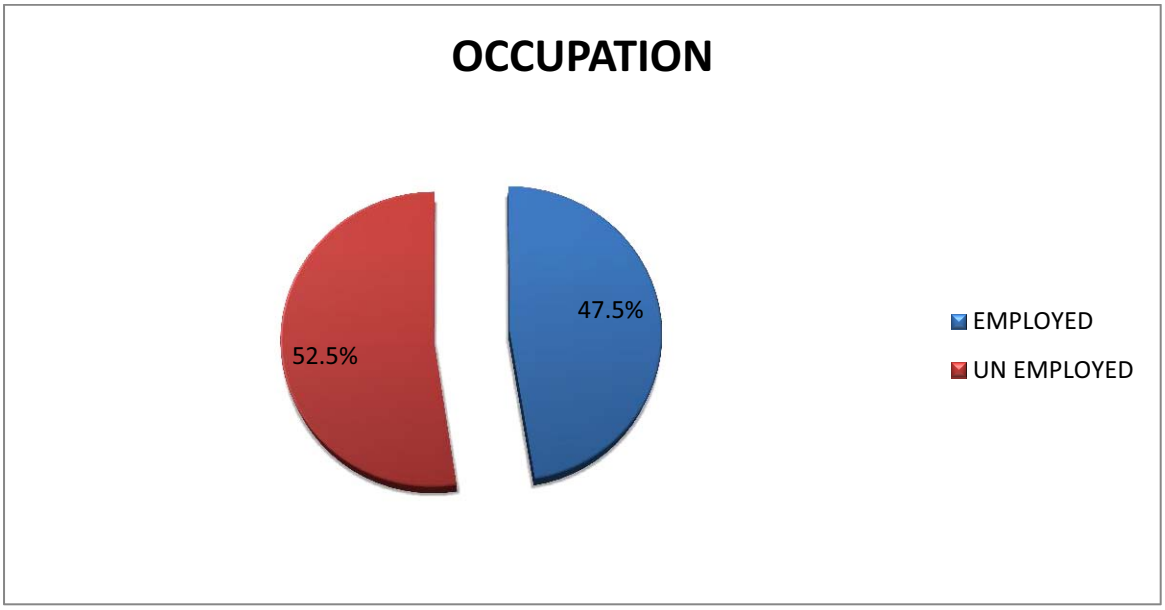


FIGURE 4.5 : Represents percentage distribution of women with PCOS based on area of residence

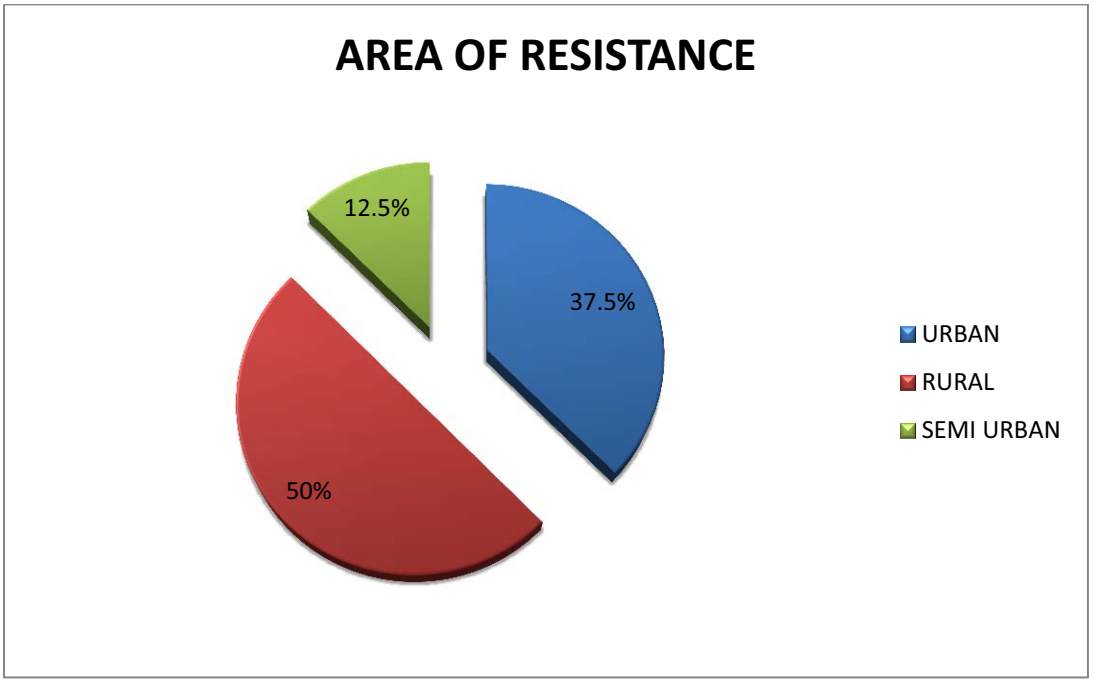


FIGURE 4.6 : Represents percentage distribution of women with PCOS based on dietary habits

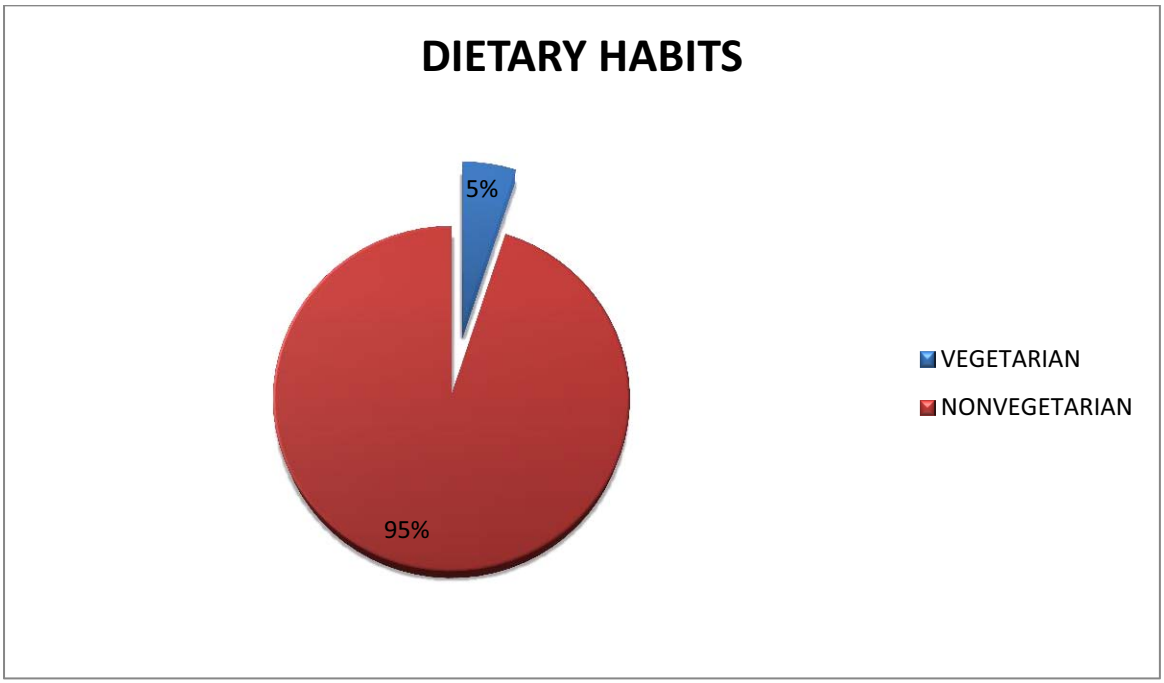


FIGURE 4.7 : Represents percentage distribution of women with PCOS based on marital status

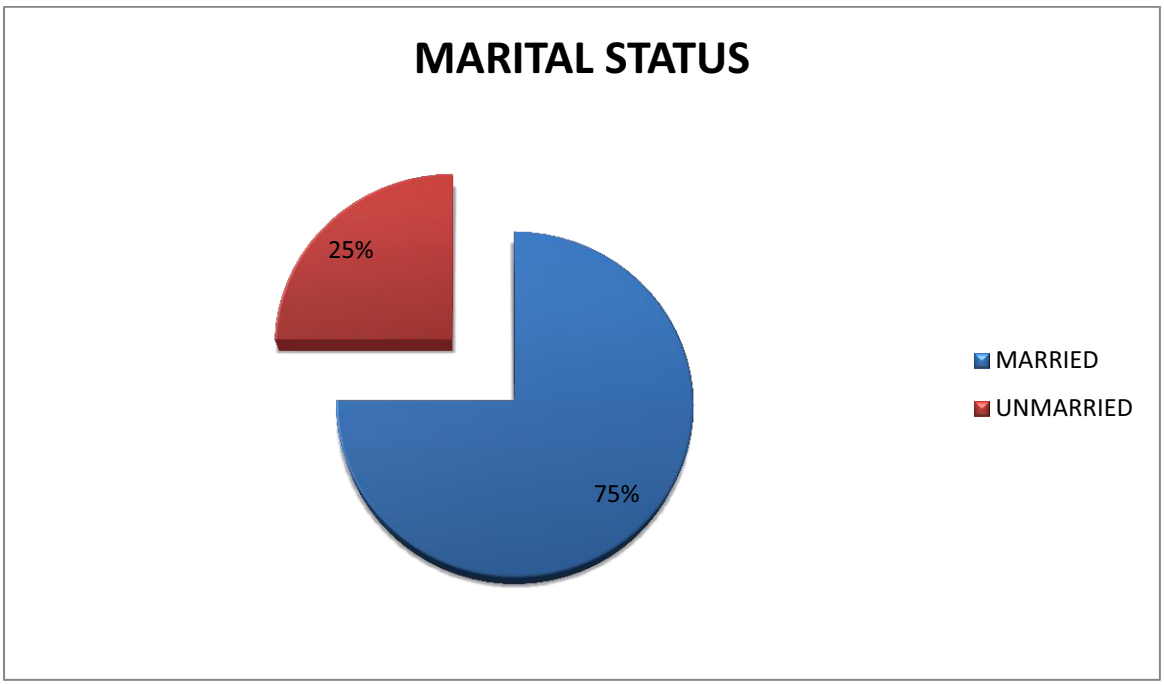


FIGURE 4.8: Represents percentage distribution of women with PCOS based on religion

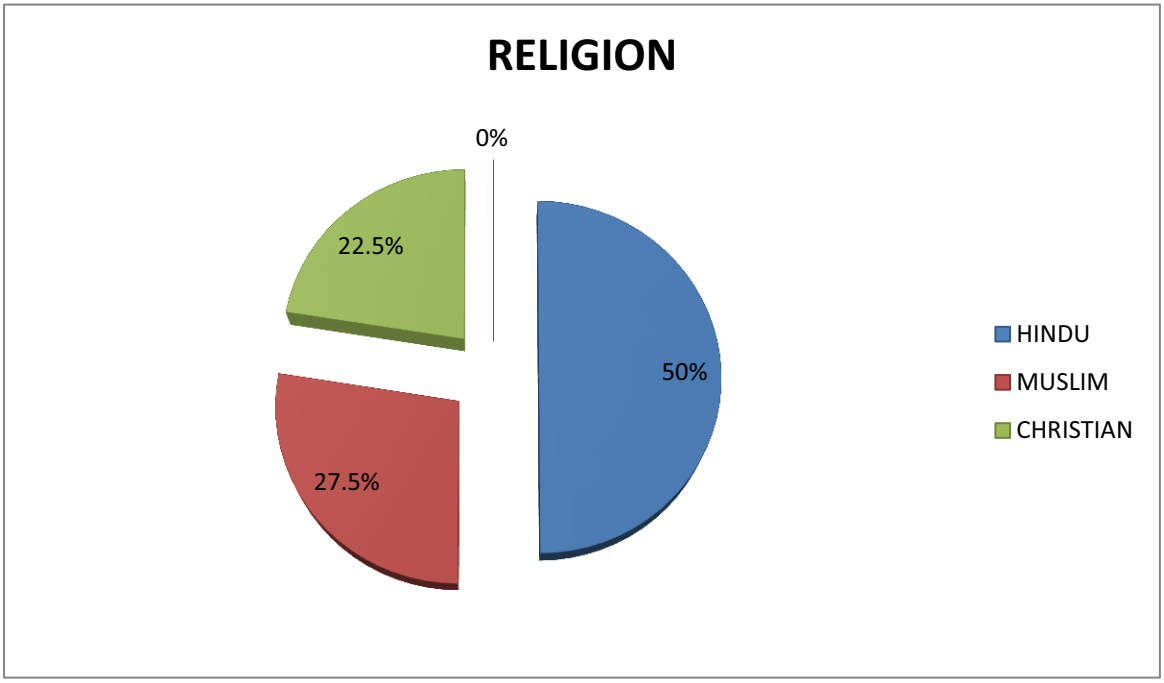
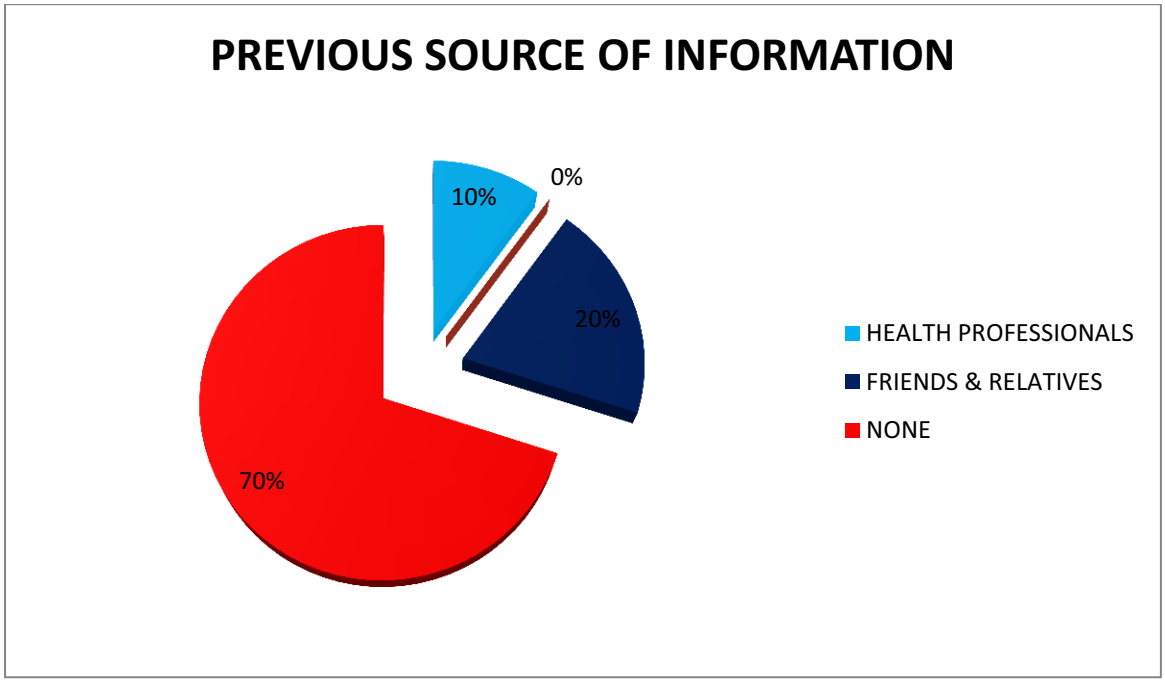


FIGURE 4.9: Represents percentage distribution of women with PCOS based on previous source of information



SECTION 2

Assessment of pre test and post test levels of knowledge regarding weight reduction among women with PCOS.

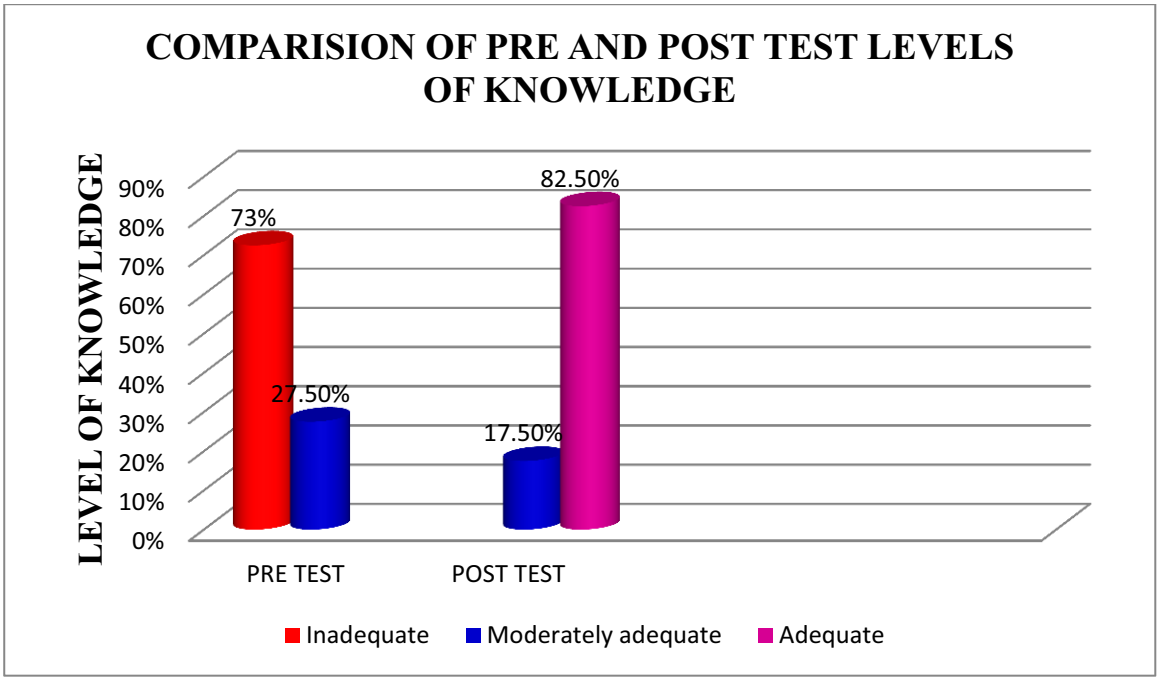
TABLE 4.2 : Comparison of the pre and post test levels of knowledge regarding weight reduction among women with PCOS.

N=40

S. NO	LEVELS OF KNOWLEDGE	PRE TEST		POST TEST	
		Frequency	%	Frequency	%
1.	Inadequate knowledge	29	72.5%	-	-
2.	Moderately adequate knowledge	11	27.5%	7	17.5%
3.	Adequate knowledge	-	-	33	82.5%

Table 4.2 showed that in pre test 29(72.5%) women had inadequate knowledge, 11(27.5%) had moderately adequate knowledge and none of them had adequate knowledge. Where as in post test levels of knowledge revealed that none of them had inadequate knowledge, 7(17.5%) had moderately adequate knowledge, 33(82.5%) had adequate knowledge regarding weight reduction among women with PCOS..

FIGURE 4.10: Comparison between the pre and post test levels of knowledge regarding weight reduction among women with PCOS



SECTION 3

Assessment of pre test and post test levels of attitude regarding weight reduction among women with PCOS.

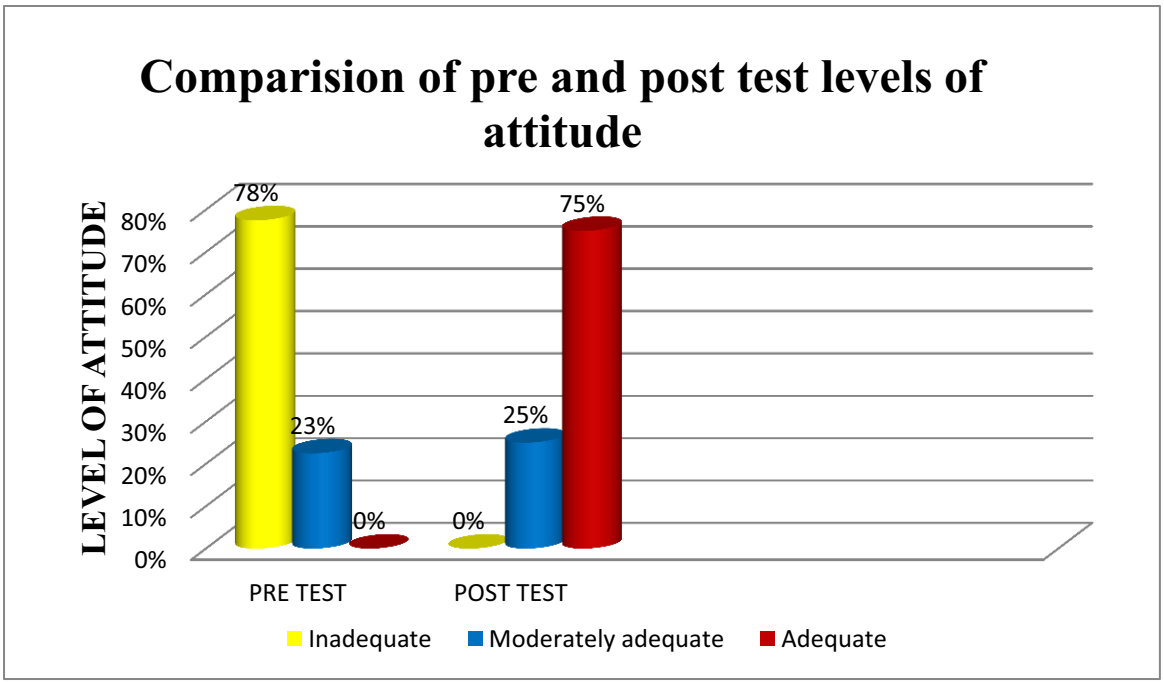
TABLE 4.3 : Comparison between pre and post test levels of attitude regarding weight reduction among women with PCOS

N = 40

S. NO	LEVELS OF ATTITUDE	PRE TEST		POST TEST	
		Frequency	**%**	**Frequency**	**%**
1.	Inadequate attitude	31	77.5%	-	-
2.	Moderately adequate attitude	9	22.5%	10	25%
3.	Adequate attitude	-	-	30	75%

Table 4.3 showed that in pre test 31(77.5%) women had inadequate attitude, 9(22.5%) women had moderately adequate attitude, none of them had adequate attitude. In post test none of them had inadequate attitude, 10(25%) women had moderately adequate attitude, 30(75%) women had adequate attitude.

FIGURE 4.11 : Comparison between pre and post test levels of attitude regarding weight reduction among women with PCOS



SECTION: 4

comparision of pre and post test levels of knowledge and attitude regarding weight reduction among women with PCOS .

TABLE 4.4 : Assessment of the significant difference between the pre and post test levels of knowledge and attitude regarding weight reduction among women with PCOS. **N = 40**

S.NO	VARIABLES	PRE TEST		POST TEST		PAIRED 'T' TEST
		MEAN	SD	MEAN	SD	
1.	KNOWLEDGE	7.1	3.07	16.97	2.35	22.1 *
2.	ATTITUDE	21.47	6.8	46.07	8.74	19.7 *

* Significant

H0 – There is no significant difference between the pre and post test levels of knowledge and attitude regarding weight reduction among women with PCOS.

This table showed that the mean and SD of pre and post test survey regarding knowledge and attitude. In pre test, the mean score of knowledge was 7.1with SD 3.07 and in post test, the mean score was 16.97 with SD 2.35. The calculated 't' value CV = 22.1, TV = 2.0227 (CV > TV) which was statistically significant at 0.05 level.

Regarding attitude, the pre test mean score was 21.47 with SD 6.8 and in post test, the mean score was 46.07 with SD 8.74. Here the calculated 't' value was CV= 19.7, TV = 2.0227 (CV> TV) at 0.05 level. It showed that, there was a significant difference between the pre and post test levels of knowledge and attitude regarding weight reduction among women with PCOS. So the given Lifestyle Modification Package was effective.

FIGURE 4.12: Assessment of significant difference between the pre and post test levels of knowledge regarding weight reduction among women with PCOS

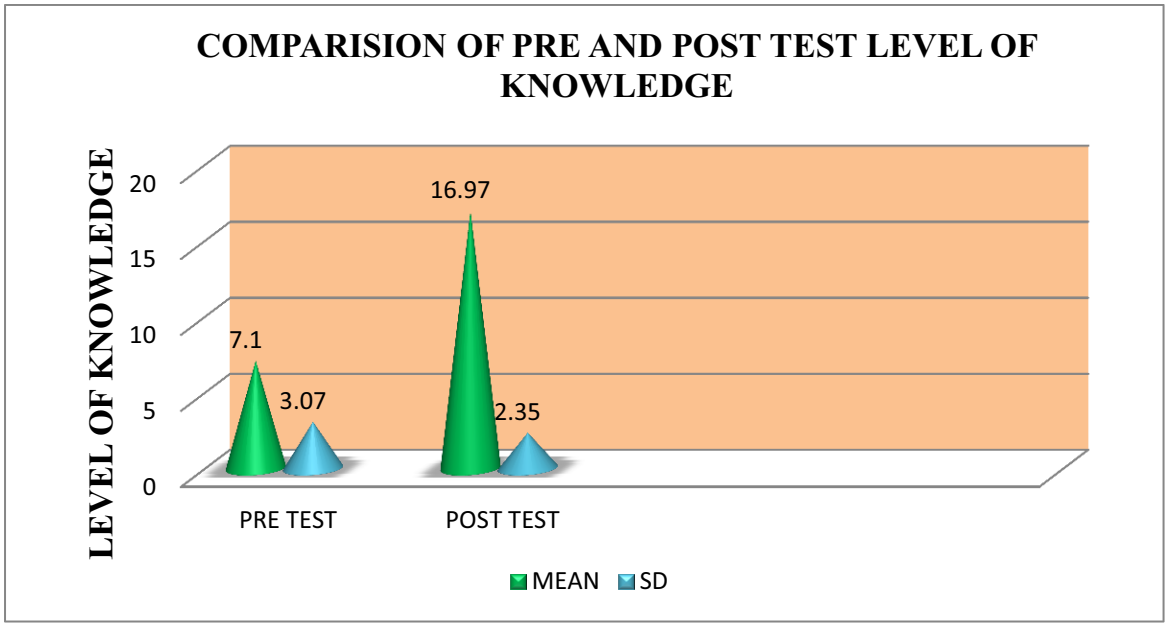
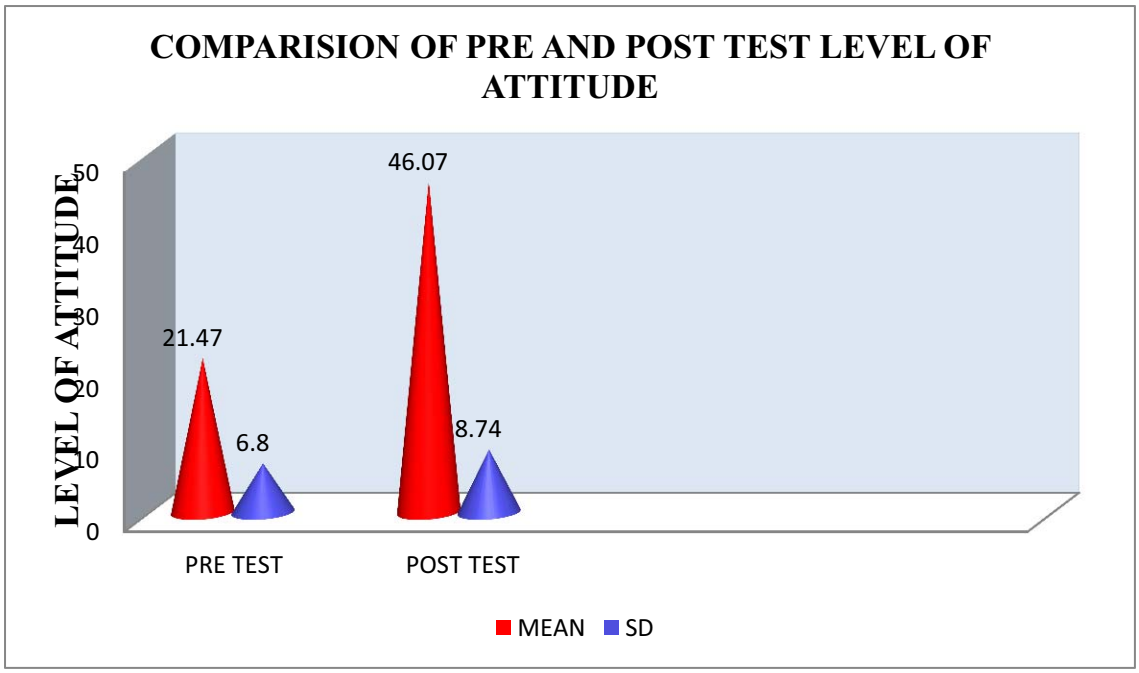


FIGURE 4.13: Assessment of significant difference between the pre and post test levels of attitude regarding weight reduction among women with PCOS



SECTION 5

Assessment of correlation between the post test scores of knowledge and attitude regarding weight reduction among women with PCOS.

TABLE 4.5 : Correlation between the post test scores of knowledge and attitude regarding weight reduction among women with PCOS N = **40**

S. NO	VARIABLES	PRE TEST		POST TEST		CORRELATION 'r' value
		MEAN	SD	MEAN	SD	
1.	knowledge	7.1	3.07	16.97	2.35	0.8 highly significant and positive correlation
2.	Attitude	21.47	6.80	46.07	8.74	

Table 4.5 showed that the mean and standard deviation of pre and post test regarding knowledge and attitude. In pre test , the mean score regarding knowledge was 7.1 with the SD 3.07 and in post test, the mean score was 16.97 with the SD 2.35.

Regarding attitude, the above table revealed that, in pre test the mean score was 21.47 with the SD 6.80 and in post test the mean score was 46.07 with SD 8.74 and the calculated correlation r = 0.8 which was positive and highly significant correlation between the knowledge and attitude regarding weight reduction among women with PCOS.

SECTION: 6

Assessment of the association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS with their selected demographic variables such as Age of the women, Education, Age at menarche, Occupation, Residence ,Dietary habits, Marital status , Religion, Previous source of information.

TABLE 4.6: Association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS with their selected demographic variables. **N = 40**

Demographic variables	**Level of knowledge**							**Level of attitude**						
	IA		**MA**		**A**			**IA**		**MA**		**A**		
	No	%	No	%	No	%	λ^2	No	%	No	%	No	%	λ^2
Age in years														
a) 17- 24 years	18	45	4	10	-	-		20	50	2	5	-	-	
b) 25-32 years	10	25	4	10	-	-	5.49	7	17.5	7	17.5	-	-	9.5
c) 33- 40 years	1	2.5	3	7.5	-	-	(NS)	4	10	-	-	-	-	(S)
Educational status														
a) Illiterate	-	-	-	-	-	-		-	-	-	-	-	-	
b) Primary	14	35	-	-	-	-		14	35	-	-	-	-	
c) Secondary	15	37.5	-	-	-	-	39.9	15	37.5	-	-	-	-	39.9
d) Higher							(S)							(S)
secondary	-	-	2	5	-	-		2	5	-	-	-	-	
e) Diploma	-	-	3	7.5	-	-		-	-	3	7.5	-	-	

f) Graduate	-	-	6	15	-	-		-	-	6	15	-	-	
Age at menarche														
a) >15 years	20	50	8	20	-	-	0.05	20	50	8	20	-	-	1.9
b) <15 years	9	22.5	3	7.5	-	-	(NS)	11	27.5	1	2.5	-	-	(NS)
Occupation														
a) Employed	10	25	9	22.5	-	-	7.16	10	25	9	22.5	-	-	12.8
b) Un employed	19	47.5	2	5	-	-	(S)	21	52.5	-	-	-	-	(S)
Area of Residence														
a) Urban	10	25	5	12.5	-	-	2.2	11	27.5	4	10	-	-	1.67
b) Rural	14	35	6	15	-	-	(NS)	17	42.5	3	7.5	-	-	(NS)
c) Semi urban	5	12.5	-	-	-	-		3	7.5	2	5	-	-	
Dietary habits														
a) Vegetarian	2	5	-	-	-	-	0.7	2	5	-	-	-	-	0.61
b) Non vegetarian	27	67.5	11	27.5	-	-	(NS)	29	72.5	9	22.5	-	-	(NS)
Marital status of the women														
a) Married	22	55	8	20	-	-	0.04	21	52.5	9	22.5	-	-	3.87
b) Unmarried	7	17.5	3	7.5	-	-	(NS)	10	25	-	-	-	-	(NS)
Religion														
a) Hindu	12	30	8	20	-	-		16	40	4	10	-	-	
b) Muslim	9	22.5	2	5	-	-	3.6	10	25	1	2.5	-	-	3.69
c) Christian	8	20	1	2.5	-	-	(NS)	5	12.5	4	10	-	-	(NS)
d) Others	-	-	-	-	-	-		-	-	-	-	-	-	
Previous source of information														

a) Health professionals	-	-	4	10	-	-		-	-	4	10	-	-	
b) Mass media	-	-	-	-	-	-	14.5	-	-	-	-	-	-	29.2
c) Friends & Relatives	1	2.5	7	17.5	-	-	(S)	3	7.5	5	12.5	-	-	(S)
d) None	28	70	-	-	-	-		28	70	-	-	-	-	

H0 – There is no significant association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS and their selected demographic variables such as Age of the women, Education, Age at menarche, Occupation, Residence ,Dietary habits, Marital status, Religion, Previous source of information.

(NS – Not Significant, S – Significant)

The above table showed that the chi-square values to calculate the association between the pre test levels of knowledge and attitude of the women with PCOS with their selected demographic variables regarding weight reduction in pre test levels of knowledge with the Age of the women(λ^2= 5.49), Education(λ^2=39.9), Age at menarche(λ^2=0.05), Occupation(λ^2= 7.16), Residence(λ^2= 2.2) ,Dietary habits(λ^2= 0.7), Marital status(λ^2= 0.04) , Religion(λ^2= 3.25), Previous source of information(λ^2= 14.53)

In attitude the chi square value was Age of the women(λ^2= 9.5), Education(λ^2= 39.9), Age at menarche(λ^2= 1.9), Occupation(λ^2= 12.83), Residence(λ^2= 1.67),Dietary habits(λ^2= 0.61), Marital status(λ^2= 3.87) , Religion(λ^2= 3.69), Previous source of information(λ^2= 29.23) The significant levels were tested at 0.05 level.

CHAPTER V

DISCUSSION

This chapter represents the discussion of the study based on the objectives. The study was a quasi experimental (one group pre test post test) design. To evaluate the effectiveness of Lifestyle Modification package on knowledge and attitude regarding weight reduction among women with PCOS at Janet Nursing Home, Trichy.

An interview was conducted to assess the knowledge and attitude by using the semi structured knowledge questionnaire and 5 point Likert scale among women with PCOS who were attending the gynaeic OPD in Janet Nursing Home, Trichy. After pre test the Lifestyle Modification Package was given by the investigator. After 7 days from the pre test, post test was conducted by using same questionnaire. The data was grouped and analyzed by using descriptive and inferential statistics.

The first objective to assess the knowledge and attitude before and after providing life style modification package regarding weight reduction among women with PCOS.

The data analysis revealed that the pre test levels of knowledge 29(72.5%) women had inadequate knowledge, 11(27.5%) women had moderately adequate knowledge and none of them had adequate knowledge.. In pre test levels of attitude 31(77.5%) women had inadequate attitude, 9(22.5%) women had moderately adequate attitude, none of them had adequate attitude. The result showed that there was lack of knowledge and attitude among women with PCOS regarding weight reduction

In post test levels of knowledge revealed that none of them had inadequate knowledge, 7(17.5%) women had moderately adequate knowledge, 33(82.5%) women had adequate knowledge. In attitude none of them had inadequate attitude, 10(25%) women had moderately adequate attitude, 30(75%) women had adequate attitude.

The second objective to evaluate the effectiveness of Lifestyle Modification package regarding weight reduction among women with PCOS.

The mean pre test value of knowledge was 7.1 with SD 3.07, in post test the mean value was 16.97 with SD 2.35 and the projected paired "t" test value CV = 22.1, TV = 2.0227 (CV > TV) at 0.05 level. Whereas the pre test levels of attitude the mean value was 21.47 with SD 6.8, in post test the mean value was 46.07 with SD 8.74. and the projected paired "t" test value CV= 19.7, TV = 2.0227 (CV > TV) at 0.05 level the statistical analysis proved that there was a significant difference between the pre and post test levels of knowledge and attitude regarding weight reduction among women with PCOS, so the given Life Style Modification Package was effective.

Hence the hypothesis H1 states that there was significant difference between the pre and post test levels of knowledge and attitude regarding weight reduction among women with PCOS was accepted.

The third objective to correlate the post test scores knowledge and attitude regarding weight reduction among women with PCOS.

In the post test the mean value was 16.97 with SD 2.35 and in attitude the mean value was 46.07 with SD 8.74 and the calculated 'r' value 0.8 it revealed that there was a highly positive significan correlation between the knowledge and attitude regarding weight reduction.

So the research hypothesis H2 there was a significant correlation between the post test scores of knowledge and attitude regarding weight reduction among women with PCOS was accepted.

The fourth objective to determine the association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS with their selected demographic variables

There was no significant association in Age of the women, Age at menarche, Area of resistance, Dietary habits, Marital status, and Religion towards the pre test level of knowledge. Where as in attitude there was no significant association in Age at menarche, Area of residence, Dietary habit, Marital status, Religion. So the H_3 was rejected.

But the same there was a significant association with Education, occupation and Previous source of information in the knowledge level and there was significant association with Age of the women, Education, Occupation, and Previous source of information in the attitude, so the H3 was accepted.

CHAPTER – VI

SUMMARY AND CONCLUSION

A Quasi – experimental (One group Pre test Post test Design) study was conducted to assess the knowledge and attitude regarding weight reduction among 40 women with PCOS at Janet Nursing Home, Trichy. The samples were selected by using Non probability convenience sampling technique. The investigator first introduced herself to the samples and developed rapport with them. The, Semi- structured knowledge questionnaire and 5 point Likert scale was used to assess the knowledge and attitude. For analysis of data , descriptive and inferential statistics was used. The major findings are summarized as follows.

In the pre test levels of knowledge 29(72.5%) women had inadequate knowledge, 11(27.5%) women had moderately adequate knowledge. in pre test levels of attitude 31(77.5%) had inadequate attitude, 9(22.5%) had moderately adequate attitude, none of them had adequate knowledge and attitude..

In the post test levels of knowledge, 7(17.5%) had moderately adequate knowledge, 33(82.5%) had adequate knowledge In post test levels of attitude, 10(25%) had moderately adequate attitude, 30(75%)had adequate attitude none of them had inadequate knowledge and attitude

The statistical analysis revealed that the difference between the pre and post test levels of knowledge and attitude was calculated by paired ‘t’ test for knowledge (‘t’ = 22.1) and for attitude (‘t’ = 19.7). This proved that there was a significant difference in pre test and post test levels of knowledge and attitude at 0.05 level of significance. So the given Life Style Modification package was effective.

The statistical analysis for correlation between the post test scores of knowledge and attitude was calculated by “Karl Pearson correlation method” it

stated the calculated 'r' value ('r' = 0.8) it revealed that there was a positive and highly significant correlation between the post test scores of knowledge and attitude regarding weight reduction.

The statistical analysis to determine the association between the pre test levels of knowledge and attitude regarding weight reduction among women with PCOS with their selected demographic variables was calculated by using "chi square test". The results were stated that in knowledge level there was a significant association with Education, occupation and Previous source of information and in attitude there was significant association with Age of the women, Education, Occupation, and Previous source of information.

CONCLUSION

The objective of the study was to determine the effectiveness of Lifestyle Modification Package on knowledge and attitude among women with PCOS regarding weight reduction. The results showed that there was a significant difference between pre and post test levels of knowledge and attitude this indicated the given Life Style Modification Package was effective.

NURSING IMPLICATIONS

The findings of the study which enable us to conclude that Lifestyle Modification Package is effective on improving knowledge and attitude regarding weight reduction among women with PCOS implications towards Nursing profession, including Nursing service ,Nursing education, Nursing administration, and Nursing research.

NURSING SERVICE

Nurses are act as an educator, supervisor, counsellor, advocator, lecturer, and team worker in various situation of work. While providing good counselling to the women regarding PCOS will help to improve the health of

the women. The study will help the women to recover from the signs and symptoms and help to reduce the weight.

NURSING EDUCATION

In this study the result will help the nurse educator to improve the knowledge regarding weight reduction among women with PCOS. The study will help the women to improve the knowledge regarding weight reduction will helps to maintain the hormonal balance and improve the ovulation process of women with PCOS.

NURSING RESEARCH

The study will helps for further research to improve the PCOS women condition. The study can be conducted as experimental study to improve the health condition of the women. This study also conducted for various group of women to educate about the PCOS.

NURSING ADMINISTRATION

The finding of the study will helps the nurses to organize and plan for education in various method. This also used in hospital administration to provide counselling to the women with PCOS regarding weight reduction.

RECOMMENDATIONS

The following recommendations are done based on this study:

- The similar study can be conducted with large samples for better generalization.
- A comparative study can be conducted to assess the knowledge and attitude regarding weight reduction among women with PCOS.
- A study can be conducted to assess the knowledge, attitude and practice on women with PCOS regarding weight reduction exercises.

- A study can be conducted to assess the knowledge and practice regarding Zumba exercise among PCOS women in various gynaeic hospitals.
- A similar study can be conducted as retrospective study.

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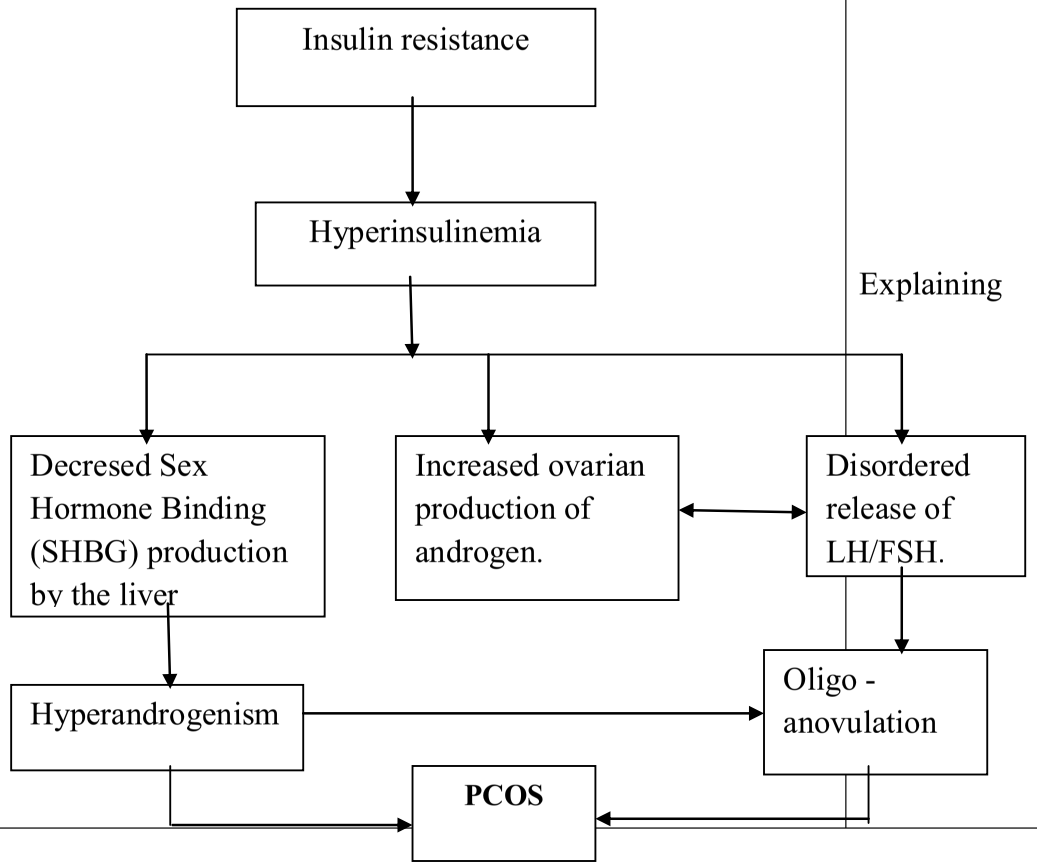
S. No	Duration	Specific objectives	Content	Teacher activity	Learner activity	Av aids	Evaluation
1.	2mts		**INTRODUCTION:** Polycystic ovarian disease is a problem in which a woman's hormones are out of balance. It can cause problems with your periods and make it difficult to get pregnant. PCOS also may cause unwanted changes in the way you look. If it isn't treated, over time it can lead to serious health problems, such as diabetes and heart disease. Most women with PCOS grow many small cysts on their ovaries. That is why it is called polycystic ovary syndrome. The cysts are not harmful but lead to hormone imbalances.	Introducing the topic	Listening	-	-
2.	2mts	Define PCOS	**DEFINITION**: Polycystic ovarian syndrome is a heterogeneous , multisystem endocrinopathy in women of reproductive age with the ovarian expression of various metabolic disturbances and a wide spectrum of clinical features such as obesity , menstrual abnormalities and hyperandrogenism. This disease was discovered by and named as stein leventhal syndrome in 1935.	Discussing	Listening	LCD	What is the definition of PCOS?

3.	1mts	State the incidence	**INCIDENCE:** Current incidence of PCOS (5-6%) is fast increasing lately due to change in the lifestyle and stress. It is also becoming a common problem amongst adolescents , developing soon after puberty. Amongst infertile women , about 20% is attribute to anovulation caused by PCOS.	Lecture cum discussion	Listening	LCD	State the incidence rate of PCOS?
4.	5mts	Enumerate the Etiology	**AETIOLOGY**: PCOS has been attributed to several causes including changes in lifestyle , diet an stress. The exact cause of PCOS is unknown, but it's thought to be relate to abnormal hormone levels. • Resistance to insulin • Hormone imbalance • Genetics <u>Resistance to insulin</u>: Insulin resistance means the body's tissues are resistant to the effects of insulin. The body therefore has to produce extra insulin to compensate. High levels of insulin cause the ovaries to produce too much testosterone hormone, which interferes with the development of the follicles (the sacs in the ovaries where egg	Lecture cum discussion	Asking questions & clarifying the doubts	LCD	Enumerate the etiology of PCOS?

			develop) and prevents normal ovulation. Insulin resistance can also lead to weight gain, which can make PCOS symptoms worse because having excess fat causes the body to produce even more insulin.				
5.	5mts	Explaining the pathophysiology	**PATHOPHYSIOLOGY:**  	Explaining	Listening & asking doubts	LCD	Explain the pathophysiology of PCOS?

6.	5mts	List out the signs & symptoms.	**SIGNS AN SYMPTOMS**: • Menstrual irregularities • Skin manifestation(acne) • Hirsutism (hair growth on the upper lip, chin, abdominal, back, buttock area.) • Infertility • Obesity and metabolic syndrome • Diabetes • Obstructive sleep apnoea.	Lecture cum discussion	Listening	LCD	List out the signs & symptoms of PCOS?
7.	2mts	Enlist the diagnosis	**DIAGNOSIS:** • History collection regarding menstrual history • Physical examination findings are hirsutism, acne, obesity. **Ultrasound** is diagnostic of PCOS it confirms: ➢ The enlarged ovaries , their size and increased stroma. ➢ Twelve or more small follicles each of 2-9 mm in size placed peripherally.	Lecture cum discussion	Listening &clarifying the doubts		

			➢ It rules out ovarian tumour. ➢ It shows endometrial hyperplasia if present.				
8.	20mts	Discuss the management of PCOS	**MANAGEMENT**: The purpose of treatment is: ● To cure women with menstrual disorder ● To treat hirsutism ● To treat infertility **LIFE STYLE MODIFICATION**: ❖ Exercise ❖ Diet **Exercise:** The single most important PCOS treatment is to lose weight if you are overweight. By reducing calories and simple sugars, increasing lean protein and fiber and beginning a regular exercise routine, you can help your body increase its response to insulin, and possibly decrease androgen production.	Discussing	Listening & asking doubts.	LCD, CD, and pamphlets	Discuss the management of PCOS?

			The exercises are; • Walking • Running • Zumba **1. Walking** 				

			Steps: • Step I: Wear shoes • Step II: Walk on the bath that are flat and well maintained. • Step III: Drink 250-500ml of water before to walk. • Step IV: Increase the thrust and intensity of your arm swing while walking. • Step V: Walk 30 minutes continuously. Duration: Walking continuously for 30 minutes to burn 1000 – 3000 calories per week. Benefits: ▪ Maintain body weight and lower the risk of obesity. ▪ Enhance the mental well being. ▪ Reduce the risk of coronary artery disease.				

			2.Running. 				

			Steps: ● Step I: First, gradually increase a gentle walk to 30 minutes. ● Step II : Increase walk as 5-10 seconds of running, every other day. ● Step III: Then gradually decrease the walking amount by five seconds each day. ● Step IV: If experience pain, inflammation or loss of function in the feet or legs, stop run immediately. ● Step V: Don't drink or eat very much before a run. Duration: 30 seconds run per day will help to reduce 4.54kg weight per week. Benefits: ▪ Lose weight ▪ Improve health status ▪ Relieve stress ▪ Prevent disease				

			▪ Boost your confidence **3.Zumba exercise:** **Introduction:** Zumba is a fusion of Latin and international music combined with a heart-pumping cardio workout. It was founded in the '90s by Alberto "Beto" Perez, a fitness instructor from Colombia, when he forgot his music and improvised a traditional aerobics class with Latin music and moves that he grew up dancing to. The exhilarating class has a party-like atmosphere with the focus on having fun. Benefits: ➢ Weight loss ➢ Improve Body tone ➢ It's perfect stress reliever ➢ Improved co ordination ➢ It's work for every age				

			➢ Improved mood ➢ Greater confidence. ➢ Reverse metabolism ➢ It's fast ➢ Zumba is fun ,not a boring workout Pre preparation: ● Comfortable dress ● Wear shoes ● Drink 250 – 300 ml of water one hour before workout. ● Bring water and a towel Duration: 30 minutes per **DIET:** <u>THE RECOMMENDED MEAL PLAN FOR PCOS:</u> Recommended lifestyle changes include: • Weight loss of 5-10% if overweight or obese in 3 months. • Decreased caloric intake if weight loss is desired.				

			• Decreased intake of enriched carbohydrates. • Increased fiber intake including fruits & vegetable. • Decreased fat intake, particularly saturated fat. • Smaller, more frequent meals (every 3-4 hours) to help control blood glucose levels. • Balanced meals including carbohydrates, protein, and fat. **DRINK MORE WATER** **Drink water throughout the day.** Drinking water during the day can help keep you feeling full without consuming high-calorie coffees and snacks. You may also eat less when you do have a snack, as you should already have the sensation of being full. Consuming fewer calories on a daily basis can help speed weight loss.				
			Summary: Till now we are seen about the life style modification package on polycystic ovarian syndrome in this we are seen about the definition of PCOS, Aetiology , Pathophysiology, Clinical manifestation , Diagnosis, and				

			Management for PCOS, it includes Lifestyle changes in PCOS(exercise and diet).				
			Conclusion: We can't prevent PCOS from developing. Finding out that you have it as soon as you can and making lifestyle changes are the best ways for you to control your symptoms. If you have PCOS and are overweight, you can even reverse your symptoms through weight loss. Lifestyle modification programmes with an emphasis on behavioural management and dietary and exercise interventions have been successful in the general population in reducing the risk of diabetes and the metabolic syndrome, and have had some initial success in improving fertility outcomes in PCOS.				

GENTRAL OBJECTIVES:

At the end of the session, the women will gain knowledge regarding Poly cystic ovarian Syndrome and develop their desirable positive attitude towards life style modifications on PCOS and they will be able to maintain in their real life situation.

SPECIFIC OBJECTIVES:

At the end of the session, the women will be able to

- define PCOS
- state the incidence of PCOS
- enumerate the etiology of PCOS
- explain the pathophysiology of PCOS
- list out the signs and symptoms of PCOS
- enlist the diagnosis of PCOS
- discuss the management of PCOS

Menu plan for PCOS women:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast	Skimmed milk oats.	Milk Vegetable cutlet	Ragi uppuma	Skimmed milk cereals	Lemon tea Without sugar	Milk Bread with egg	Lemon tea Oats
Lunch	Whole wheat bread Apple juice without sugar	Oat meal Green leafy Orange juice	Steamed veggies Pineapple juice	Brown rice Lemon juice Green leafy	Rice curd Pomegranate juice	Fruit salad Rice curd	Oatmeal Green leafy vegetables apple juice
Dinner	Cooked brown rice Banana	Chappathi banana	Wheat biscut With Milk	Wheat bread with banana	Chappathi Vegetable soup	Bread slices Apple	Chappathi Banana

LIFE STYLE MODIFICATION PACKAGE ON PCOS

வ. எண்	காலம்	குறிக் கோள்	பொருளடக்கம்	கற்பிப்பவர் செயல்பாடுகள்	கற்றறிபவர் செயல்பாடுகள்	ஒலி ஒளித் துணைக்கலங்கள்	மதிப்பீடு
1.	2 நிமிடம்	பாடத்தை அறிமுப்படுத்துதல்	**முன்னுரை** சினைப்பை நீர்கட்டிகளால் பெண்களின் ஹார்மோனில் மாற்றம் ஏற்படுகின்றது. இதனால் பெண்களின் மாதவிடாய் பாதிக்கபடுகின்றது மற்றும் கர்ப்பம் தரிப்பதில் பிரச்சினை ஏற்படுகின்றது. இதற்கு சரியான சிகிச்சை அழிக்காவிட்டால் வேறுவிதமான நோய்கள் ஏற்படும்.	அறிமுப்படுத்துதல்	கவனித்தல்	-	-

2.	2 நிமிடம்	சினைப்பை நீர்க்கட்டிகளை **வரையறை** செய்தல்	**வரையறை** சினைப்பை நீர்க்கட்டிகள் என்பது ஒர்வகையான இனப்பெருக்க நோய் ,இதனால் பெண்களின் மாதவிடாய் பாதிக்கபடுகின்றது மற்றும் உடல் எடை அதிகரித்தல், முகபரு தோன்றுதல் , போன்றவை ஏற்படுகின்றது	விவாதித்தல்	கவனித்தல்	திரவபடிகக் காட்சி	சினைப்பை நீர்க்கட்டிகள் என்றால் என்ன?
3.	1 நிமிடம்	நிகழ்வுகளை வரையறுத்தல்	**நிகழ்வுகள்** தற்போதைய நிலவரப்படி கர்ப்பை நீர்க்கட்டிகள் நோய் அதிகரித் வருகின்றது (5-6%) . இந்த நோய் அதிகமாக இளமை பருவத்தில் ஏற்படுகின்றது. 20% பெண்களின் குழந்தை இல்லாமைக்கு கர்ப்பப்பை நீர்கட்டிகள் ஒரு காரணம்.	கற்றறிபவரிடம் கலந்துரையாடல் மற்றும் விவாதித்தல்	கவனித்தல்	திரவபடிகக் காட்சி	சினைப்பை நீர்கட்டிகளின் நிகழ்வுகளை வரையறுக்க

4.	5 நிமிடம்	சினைப்பை நீர்கட்டிகளுக்கான காரணங்களை கணக்கிலெடுத்தல்	**காரணங்கள்** <u>சினைப்பை நீர்க்கட்டிகள் ஏற்படுவதற்கான காரணம்:</u> ❑ வாழ்க்கை முறையில் ஏற்படும் மாற்றகளாகும். ❑ இன்சுலின் ஒவ்வாமை ❑ ஹார்மோன் பிரச்சினை ❑ பறம்பறை **வழிக்காரணிகள்** ❑ இன்சுலின் ஒவ்வாமை ❑ இரத்ததில் இன்சுலின் அளவு அதிகரிக்கும் ❑ குறைந்த அளவு பால்சுரப்பிகள் கல்லீரலில் சுரக்கும் ❑ அதிகளவில் ஆண்கள் ஹார்மோன் சுரக்கும் ❑ மாதவிடாய் ஏற்படாதிருத்தல்	கற்றறிபவரிடம் கலந்துரையாடல் மற்றும் விவாதித்தல்	கவனித்தல் மற்றும் சந்தேகங்களை கேட்டறிதல்	திரவபடிகக் காட்சி	சினைப்பை நீர்கட்டிகளுக்கான காரணங்களை கூறுக?

5.	5 நிமிடம்	அறிகுறிகளை வரிசைபடுத்துதல்	**அறிகுறிகள்** • ஒழுங்கற்ற மாதவிடாய் • தோல் நோய்கள் • ஹிர்சுடிஸம்(வயிறு, முதுகு பகுதிகளில் முடிவளர்தல் • உடல் எடை அதிகரித்தல் • சர்கரை நோய் • குழந்தையின்மை • தூக்கமின்மை	கற்றறிபவரிடம் கலந்துரையாடல் மற்றும் விவாதித்தல்	கவனித்தல்	திரவபடிகக் காட்சி	சினைப்பை நீர்கட்டிகளுக்கான அறிகுறிகள் என்ன
6.		சோதனைகளை பதிவுசெய்தல்	**சோதனைகள்** ❖ மாதவிடாய் பற்றிய தகவலை கேட்க வேண்டும். ❖ உடல் பரிசோதனை ❖ ஸ்கேன் செய்ய வேண்டும்	கற்றறிபவரிடம் கலந்துரையாடல் மற்றும் விவாதித்தல்	கவனித்தல் மற்றும் சந்தேகங்களை கேட்டறிதல்	திரவபடிகக் காட்சி	சினைப்பை நீர்கட்டிகளுக்கான சோதனைகள்

							என்ன?
7.	20 நிமிடம்	சிகிச்சை முறைகளை பற்றி விவாதித்தல்	**கடைபிடிக்க வேண்டிய சிகிச்சை முறைகள்** <u>பயன்கள்</u> ❖ மாதவிடாய் பிரச்சினையை குறைக்க ❖ ஹிர்சுடிசத்தை குறைக்க ❖ குழந்தையின்மை **வாழ்கைமுறை மாற்றங்கள்** ▪ உடற்பயிற்சி ▪ உணவு கட்டுப்பாடு	விவாதித்தல்	கவனித்தல் மற்றும் சந்தேகங்களை கேட்டறிதல்	திரவபடிகக் காட்சி, குறுவட்டு துண்டுபிரசுரம்.	சினைப்பை நீர்கட்டிகளுக்கான சிகிச்சை முறைகளை பற்றி கூறுக?
			உடற்பயிற்சி சினைப்பை நீர்கட்டிகளை குறைப்பதற்கு உடற்பயிற்சி மிகவும் முக்கியமாகும்.உடல் எடையை குறைப்பதற்கு குறைந்த அளவுகோல்கலோரி இனிப்பு வகைகள் எடுக்க வேண்டும். அதிகளவு புரத சத்து ,நார்சத்து எடுத்துக் கொண்டு உடற்பயிற்சி செய்வதனால் இன்சுலீன்				

			அதிகளவு பயன்படுத்தபட்டு ஆண்ட்ரோஜென் அளவினை குறைக்கும். **<u>உடற்பயிற்சியின் விதங்கள்</u>** ❖ நடைபயிற்சி ❖ ஓட்டபயிற்சி ❖ ஜம்பா				
			நடைபயிற்சி  <u>முறை</u>				

			<u>படிகள்</u> • படி1 : காலணி அணியவேண்டும் • படி2 : நடைபயிற்சி செய்ய சரியான நடைபாதையை தேர்வு செய்ய வேண்டும் • படி3 : நடைபயிற்சி செய்வதற்கு முன்பு 250 500 மி.லி தண்ணீர் குடிக்கவேண்டும் • படி4 : நடைபயிற்சி செய்யும் போது நன்றாக கைவீசி நடக்க வேண்டும் மற்றும் சிறிது சிறிதாக நடையின் வேகத்தை அதிகபடுத்தவேண்டும் • படி5 : தொடர்ந்து 30 நிமிடங்கள் நடக்க வேண்டும். <u>நேரம்</u> தொடர்ந்து 30 நிமிடங்கள் நடைபயிற்சி செய்வதன் மூலம் 1000 - 3000 கலோரி உடல் எடையை குறைக்க முடியும்				

			<u>பயன்கள்</u> • உடல் எடையை சீரமைக்கும் • மனதினை வலிமைபடுத்த • இதய நோய் வராமல் தடுக்க				
			ஓட்டபயிற்சி 				

			படிகள் படி1 : நடைபயிற்சியினை சிறிது சிறிதாக அதிகபடுத்தி ஓட்டபயிற்சி செய்யவேண்டும் படி2 : நடைபயிற்சியினை 5 -10 விநாடிகள் அதிகபடுத்தி,அதன் பின்பு ஓட்டபயிற்சியினை செய்யவேண்டும் படி3 : நடைபயிற்சியினை 5 விநாடிகள் குறைத்து ஓட்டபயிற்சியை அதிகபடுத்தவேண்டும். படி4 : ஓட்டபயிற்சியின் போது காலில் வலி அல்லது வேறு பிரச்சினை ஏற்பட்டால் உடனடியாக ஒட்டபயிற்சியினை நிறுத்தவேண்டும் படி5 : ஓட்டபயிற்சிக்கு முன்பு அதிகமான உணவு உண்ணகூடாது நேரம் 30 விநாடிகள் தினமும் ஓட்டபயிற்சி செய்ய வேண்டும்.இதன்முலம் 4.54கி.கி உடல் எடையை				

			குறைக்க முடியும் <u>பயன்கள்</u> ▪ உடல் எடையை குறைக்க ▪ மனஅழுத்தத்திலிருந்து விடுபட ▪ மன தையிரியத்தை ஏற்படுத்தும் ▪ ஏற்படாமல் தடுக்கும்				
			ஜும்பா உடற்பயிற்சி **ஜும்பா உடற்பயிற்சி என்பது லத்தீன் இசையுடன் கூடிய ஒரு உடல்பயிறசி,இது ஆல்பர்ட் பீடோ என்பவரால் கொலம்பியா நாட்டில் கணடுபிடிக்கபட்டது.இந்த உடல்பயிற்சி ஒரு விழாக்கோலம் போன்ற சூழ்நிலையை ஏற்படுத்தும். கொண்டாட்டம் நிறைந்த உடல்பயிற்சியாகும்**				

			<u>பயன்கள்</u> • உடல் எடையை குறைக்க • உடலினை வலிமைபடுத்த • மனஅழுத்தத்தை குறைக்க • உடலினை சமநிலையாக்க • அனைத்துவயதினறும் செய்ய இயலும் • நம்பிக்கையை வளர்க்கிறது. • உடல் வளர்சிதைமாற்றத்தை அதிகபடுத்துகிறது <u>உடல்பயிற்சிக்கு முன்பு</u> • வசதியான ஆடையை அணியவேண்டும் • காலணிகளை அணியவேண்டும். • உடல்பயிற்சி செய்வதற்கு ஒரு மணிநேரத்திற்கு முன்பு 250 500 மி.லி தண்ணீர் அருந்தவேண்டும். • உடற்பயிற்சிக்கு செல்லும்போது தண்ணீர்				

			மற்றும் துண்டு எடுத்துசெல்லவேண்டும்				
			உணவு கட்டுப்பாடு <u>சினைப்பை நீர்கட்டிகள் உள்ள பெண்களுக்கு</u> <u>பரிந்துரைக்கபட்ட உணவு வகைகள்:</u> • உடல் எடையை குறைக்க வேண்டும் • குறைவான கார்போஹைட்ரேட் நார்சத்து நிறைந்த பழங்கள் மற்றும் காய்கரிகள் அதிகமாக உண்ணவேண்டும். • கொழுப்புசத்துநிறைந்தஉணவினை குறைவாக உண்ணவேண்டும். சரிவிகிதஉணவு அளிக்கவேண்டும் **அதிகமான தண்ணீர் அருந்தவேண்டும்** அதிகமாக தண்ணீர் அருந்துவதனால் பசியின்மை ஏற்படுகிறது. இதனால் நாம் குறைவான உணவு மற்றும் திண்பண்டங்கள்				

			எடுத்துகொள்வோம்,இதன்முலம் குறைவான கலோரி உடலில் சேர்ந்து உடல் எடை குறைக்கும்				
			முடிவுரை சினைப்பை நீர்கட்டிகள் முடிவில் குழந்தையின்மையை ஏற்படுத்தும். அதனால் ஒழுங்கான சிகிச்சை முறையை கடைபிடிக்க வேண்டும். உடல் எடையை குறைத்தல் மிகவும் முக்கியமானது, அதற்கு உடற்பயிற்சி மற்றும் உணவு கட்டுப்பாடு மிகவும் முக்கியம். சினைப்பை நீர்கட்டிகள் உள்ள பெண்கள் அனைவரும் உடல் எடையை கட்டுபடுததுவதன் மூலம் கட்டுபடுத்தலாம்				

சினைப்பை நீர்க்கட்டிகலுக்கான வாழ்க்கைமுறை மாற்றங்கள்

சினைப்பை நீர்க்கட்டிகலுக்கான வாழ்க்கைமுறை மாற்றங்கள்

பாடம் : சினைப்பை நீர்கட்டிகலுக்கான வாழ்க்கைமுறை மாற்றங்கள்

அணி : சினைப்பை நீர்கட்டிகள் உள்ள பெண்கள்

கற்பிப்பு முறை : திரவபடிகக் காட்சி, துண்டுபிரசுரம், குறுவட்டு

நேரம் : 30 நிமிடம்

இடம் : ஜெனட் மகப்பேறு மருத்துவமனை, திருச்சி